INSIDE: THE TERRIBLE NIGHT AT SODA BUTTE

Montana Outdoors

MONTANA FISH, WILDLIFE & PARKS | $2.50

SEPTEMBER–OCTOBER 2012

FIXING THE BREAKS

Allocating opportunity in trophy elk heaven

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THEY ONCE HAD *TUSKS*?

THE BIGGEST OF MONTANA'S BEST

CARRYING MORE THAN JUST A RIFLE

EXPERT ADVICE ON HOW NOT TO SHOOT SOMEONE

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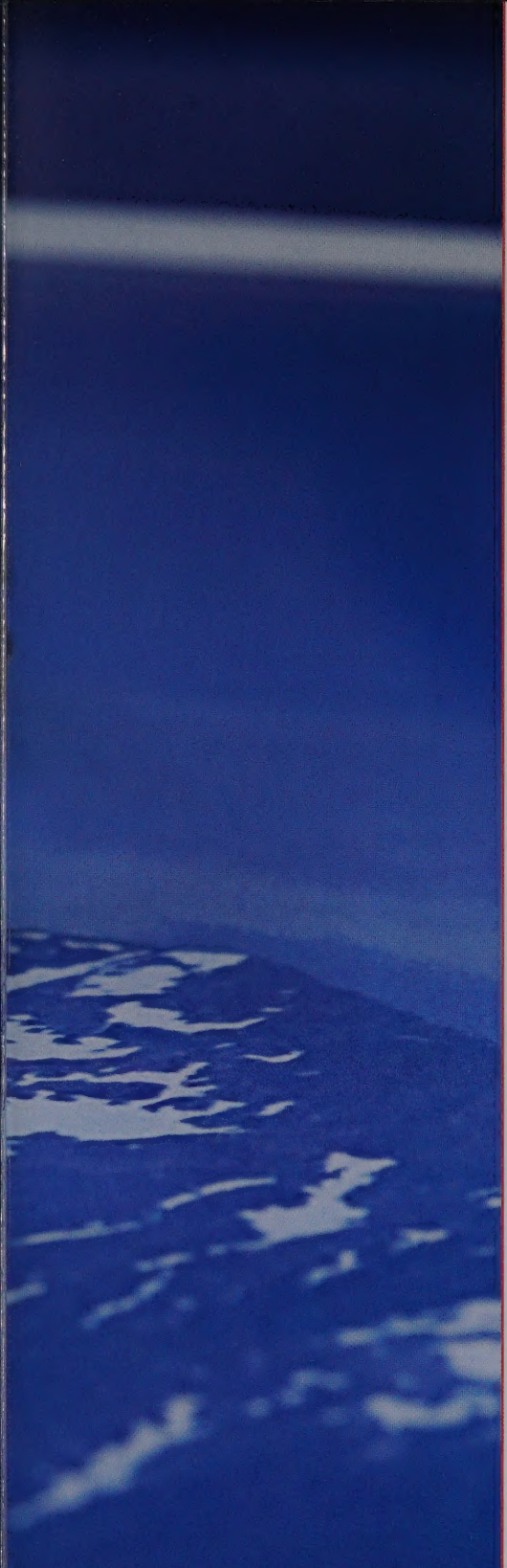

Montana Outdoors

SEPTEMBER-OCTOBER 2012

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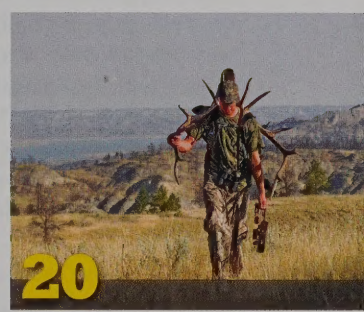

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TINY TUSKS Once used by elk for fighting and defense, their since-shrunk ivories today are valued as hunting mementos, often made into rings and other jewelry. Learn more on page 16. Photo by Nelson Kenter.

FRONT COVER Bull elk in the Missouri Breaks region recently attracted national attention that led to a regional debate over who should get the chance to hunt the trophy animals. Enter the fray on page 20. Photo by Donald M. Jones.

Cherry Creek memories

We enjoyed your July-August article on Cherry Creek ("A Big Win for the Westslope"). It brought back fond memories of the times we spent on the Flying D Ranch. My wife and I lived in Bozeman from 1958 to 1961 and got to know Boots and Mildred Schell, who were managing the ranch for a New York corporation and allowed us to fish Cherry Creek. It seems like we were stopped at least five times on each trip from the highway out to the stream by cowboys from the Spanish Creek Ranch and the Flying D wanting to know where we thought we were going. They were civil after we told them Mildred had invited us.

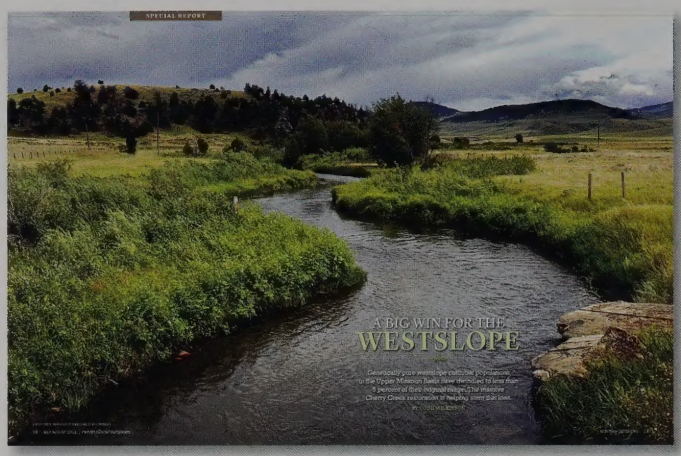
Back then we caught loads of trout, but they were all eastern brookies and never grew longer than 6 to 8 inches. They looked older but were stunted. We hope the westslope cutthroat fare better than the brook trout did.

Craig and Eva Marshall
Prescott Valley, AZ

Marshall Creek memories

I was interested to read your article on Marshall Creek WMA ("Where It All Comes Together," July-August). My wife and I lived in Missoula for many years and had a cabin on Lake Inez, near the new WMA. My late hunting partner and I hunted all the roads and trails in the Marshall Creek drainage. Even then roads were being closed by pipe gates, Kelly humps, and large rocks to make them walk-in only. Now that I'm 74, I can still walk, but dragging out a deer or elk would be a chore. Fortunately, I can still see my Montana from when I was 40 years younger. Reading your magazine still gets me choked up. Thanks for a great one.

Larry R. Brenholt
Chetek, WI



Real or surreal?

Montana Outdoors is an incredible magazine, and I look forward to every issue. But recently the pictures have been processed to the point where they don't look real. Many pictures and covers look like they were computer generated intentionally to look surreal. Not that it is any of my business to tell you how to publish your magazine, but I would much rather see the natural beauty of Montana than overprocessed images that look like a video game.

Fred Baker
Gardiner

ART DIRECTOR LUKE DURAN RESPONDS: *We don't use photos that show signs of overprocessing, because we want to present images as the photographer shot them. What Mr. Baker is seeing are advances in digital photography and printing technology. Photographers are using increasingly sophisticated digital cameras that capture a greater range of color and tone as well as sharper details. If the images occasionally appear overprocessed, it's because sometimes, in certain light, nature can appear overprocessed. Meanwhile, our printer has become a G7 Master-certified facility, which means it uses state-of-the-art technology to achieve outstanding print results and consistent quality control. The results are greater clarity and more vibrant color in our pages.*

Magazines increasingly demand more from photographers, who are rising to the challenge. At Montana Outdoors *we are seeing higher quality photos and more interesting angles and perspectives from photographers than ever before. That quality shows in the consistently high national ranking the magazine receives each year (see page 8).*

> "We want to present images as the photographer shot them."

Research before you vote

After reading about the bipartisan survey in the May-June issue ("Outdoors Report") that found most Montanans strongly support conservation, I realized that something just doesn't add up. Despite that strong public support for conservation, many politicians running for office (and often getting elected) do not support clean air, clean water, conserving wildlife habitat, open spaces, wild country, and free-flowing streams. These days it is pretty easy to know just how politicians stand on these matters. If you truly believe in conservation in Montana, please do your homework before casting your votes.

Orville Bach
Bozeman

Just saying

Your magazine is very informative and well done. I did notice a negative mention of a Canadian mining company in the article "How a Great Place Was Saved" (March-April). It is curious that in Canada there are equal mentions of evil American companies.

Doug Montgomery
Morse, Saskatchewan

You can't take it with you

I love *Montana Outdoors* magazine, which was introduced to me by a farmer who let me hunt pheasants on his place. I read with great interest the letters from nonresidents about the cost of licenses. For the past 25 years I have greatly enjoyed pheasant hunting in your wonderful state. I am from Canada, and even back when I had to pay up to 43 cents per dollar more for an American dollar, I still went hunting in Montana. To me, you can't put a price on being in the great outdoors. I never worry about how much money I've spent on things like motels, food, gas, and upland hunting licenses because it's so relaxing to be behind my Labrador chasing ring-necked pheasants. Also, Montana landowners are accepting of Canadians, and for this I am grateful. How can you possibly put a price on being in such a wonderful state doing what you love to do? To those who complain, I say: You can't take it with you; life is full of experiences.

Bruce Malcolm
Calgary, Alberta

Chokecherry Jelly, Syrup, and Liqueur

By Lee Lamb | Prep Time: 30 min. | Cook Time: Varies

This past August I popped a just-plucked chokecherry into my mouth for the first time in years. Its sweet-but-astringent taste transported me back to my childhood, when, in late summer, I would feast on the fruits picked from chokecherry bushes scattered throughout our neighborhood. My dad reminded me of the first time he made chokecherry wine back in 1979, and how he had recruited our family and friends to fill a huge cooler with 60 pounds of berries. Dad earned a first place ribbon for his chokecherry wine the following year at the Last Chance Stampede and Fair in Helena.

You'll likely run across *Prunus virginiana* (Latin for "plum from Virginia") almost anywhere in Montana. It grows in grasslands and ponderosa pine woodlands, often along waterways. Because the chokecherry tolerates a variety of soil types and thrives on disturbed soil, it also grows along roadsides, railroad rights-of-way, and fence rows.

The chokecherry can be a shrub or a small tree, growing up to 30 feet tall and 10 to 20 feet wide. Its oval leaves are glossy and dark green with pale undersides and serrated edges. Small, fragrant white flowers appear anytime between May and early July, and grow in dense clusters 3 to 6 inches long. The flowers transform into drooping bunches of small pitted cherries that ripen to a purplish-black color by late summer.

European settlers were the first to use chokecherries to make syrup, jelly, and wine. And as Native Americans across the northern Rockies and Great Plains demonstrated for thousands of years, the plant's twigs, bark, and even leaves—in small doses—can be beneficial. Indians used bark to treat wounds, cure diarrhea, and calm respiratory problems. They boiled twigs and leaves into a medicinal tea that nursed rheumatism and colds. They also treated cold and canker sores with the cherries, and they pounded the pitted fruits into pemmican. In addition, tribes created pipe stems, bows, and arrows from chokecherry limbs. In some areas the chokecherry's importance to tribes was unparalleled; remnants have been uncovered at more archaeological sites in the Dakotas than those of any other wild plant.

Bear in mind that the chokecherry's bark, stems, seed pits, and especially leaves can be fatal to humans and livestock—particularly cattle and sheep—if the plant has been stressed by drought or frost and then consumed in large amounts (typically 0.25 percent or more of the animal's body weight in an hour or less). Hydrocyanic acid is the culprit. If you eat fresh chokecherries, swallowing a single pit likely won't cause discomfort or illness, but it's still best to spit out all pits.

The fruit itself, however, is safe. It's also delicious—especially when combined with sugar. Listed at right are three easy recipes from the Montana State University Extension Office.

—Montana native Lee Lamb writes from Coeur d'Alene, Idaho.

PHOTO: OGDEN PUBLISHING

Preparation for all three recipes

Pick only the darkest chokecherries, as they'll be the ripest and sweetest. To extract the juice, clean the cherries and pour into a large pot, adding just enough water to cover. Simmer over low heat, stirring occasionally, until the fruits are soft and have released their juice, about 30 minutes. Gently strain through a jelly bag or cheesecloth-lined colander into a bowl. One gallon of chokecherries yields one quart of juice, which can be frozen for future use.

CHOKECHERRY JELLY

INGREDIENTS

¾ c. juice
1 pkg. pectin
4½ c. sugar

PREPARATION

Follow procedure on pectin package. Put in sterilized jars and seal with lids. Process in a water bath for 8 to 10 minutes.

CHOKECHERRY SYRUP

INGREDIENTS

Use the following portions for any amount:

1 c. juice
1 c. sugar

PREPARATION

Bring to a rolling boil for 15 minutes. Put in sterilized jars and seal with lids. Process in a water bath for 8 to 10 minutes.

CHOKECHERRY LIQUEUR

INGREDIENTS

1 quart chokecherries
4 c. sugar
1 fifth gin or vodka

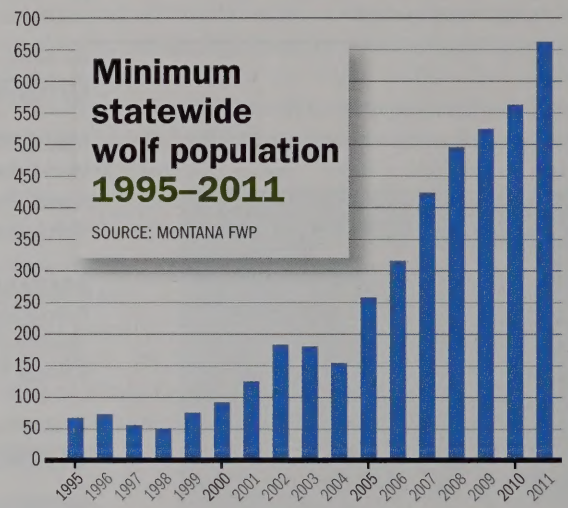
PREPARATION

Place all ingredients in a glass jar. Shake every day for 30 days. Strain and bottle. The liqueur will taste too sweet at first but will be perfect after six months of unrefrigerated storage.

Increasing the wolf harvest

The recovery of wolves is one of Montana's great conservation achievements. It's been so successful, in fact, that the state's wolf population is now too large. It's out of balance with the number of prey animals and beyond a level many livestock producers will tolerate. New regulations approved by the FWP Commission in midsummer should help bring Montana's wolf numbers down to a more acceptable level.

At the end of 2011, this state was home to at least 653 wolves (and likely 10 to 30 percent more). That's a far higher number than many Montanans will accept and more than some prey populations can withstand. Last year we tried to cut the population to around 425. Unfortunately, regulations that included a five-month hunting season didn't achieve that goal. So this year the commission added a few other tools identified in Montana's wolf plan, the document that guides the state's wolf conservation and management.



One new management tool added this year is highly regulated trapping. To take a wolf with a trap, a trapper must complete a certification class and hold a Montana trapper's license. Wolf trappers can use foothold traps only—no snares or body-gripping Conibear traps. They must check their traps every 48 hours. To further reduce the odds of the unlikely event of capturing domestic animals, the traps must be set back 1,000 feet from trailheads and 150 feet from roads.

The new mandatory wolf trapping certification classes cover topics such as the history of wolves and wolf management, the role of trapping in conservation, trapping techniques and ethics, trapping regulations, harvest reporting, proper pelt care, and pelt registration requirements.

Another change for this year has been to increase the season. It now runs from September 1 to February 28. The commission also increased the bag limit to three wolves. A person may take up to three wolves—one wolf by hunting and two wolves by trapping, or three wolves by trapping only. This will increase the probability of increasing the statewide wolf harvest.

Our aim is for the new regulations and other factors to reduce Montana's wolf population by year's end. The other factors include likely wolf mortality from livestock depredation control, vehicle collisions, other accidents, and natural causes.

Our aim is for the new regulations and other factors to reduce Montana's wolf population by year's end.

Even with this year's anticipated harvest increase, Montana will still be home to a healthy wolf population that contains ample genetic diversity. At the same time, numbers will be low enough to substantially reduce predation on livestock and big game like deer and elk.

FWP remains committed to maintaining a healthy wolf population. Our job—in fact, our legal responsibility mandated by the state—is to manage all wildlife populations in Montana. That means working to achieve a balance by restoring populations that need help and controlling others when necessary. Some wolf control is required each year, but not so much as to ever threaten the overall health of the population. Our long-stated goal is to treat wolves like all other big game animals—elk, deer, moose, mountain lions, black bears, and other species thriving under regulated harvest seasons.

This department understands the concerns of the many hunters and ranchers frustrated that wolves are taking too big a bite out of some wildlife populations and livestock operations. That's the main reason we've become more aggressive about harvest methods.

Yet we also understand the concerns of those worried that the new harvest rules could allow hunters and trappers to kill too many wolves and threaten the population's viability. We have safeguards in place to ensure that won't happen.

Wolf management remains a relatively new endeavor in Montana. That's why you might want to question those who act as if they have all the answers. They don't. All of us—in FWP and out—are still figuring out wolf population dynamics, predator effects on prey populations, the effectiveness of various harvest techniques, and more. Remember, this is only Montana's third wolf season. We still have much to learn about these large carnivores.

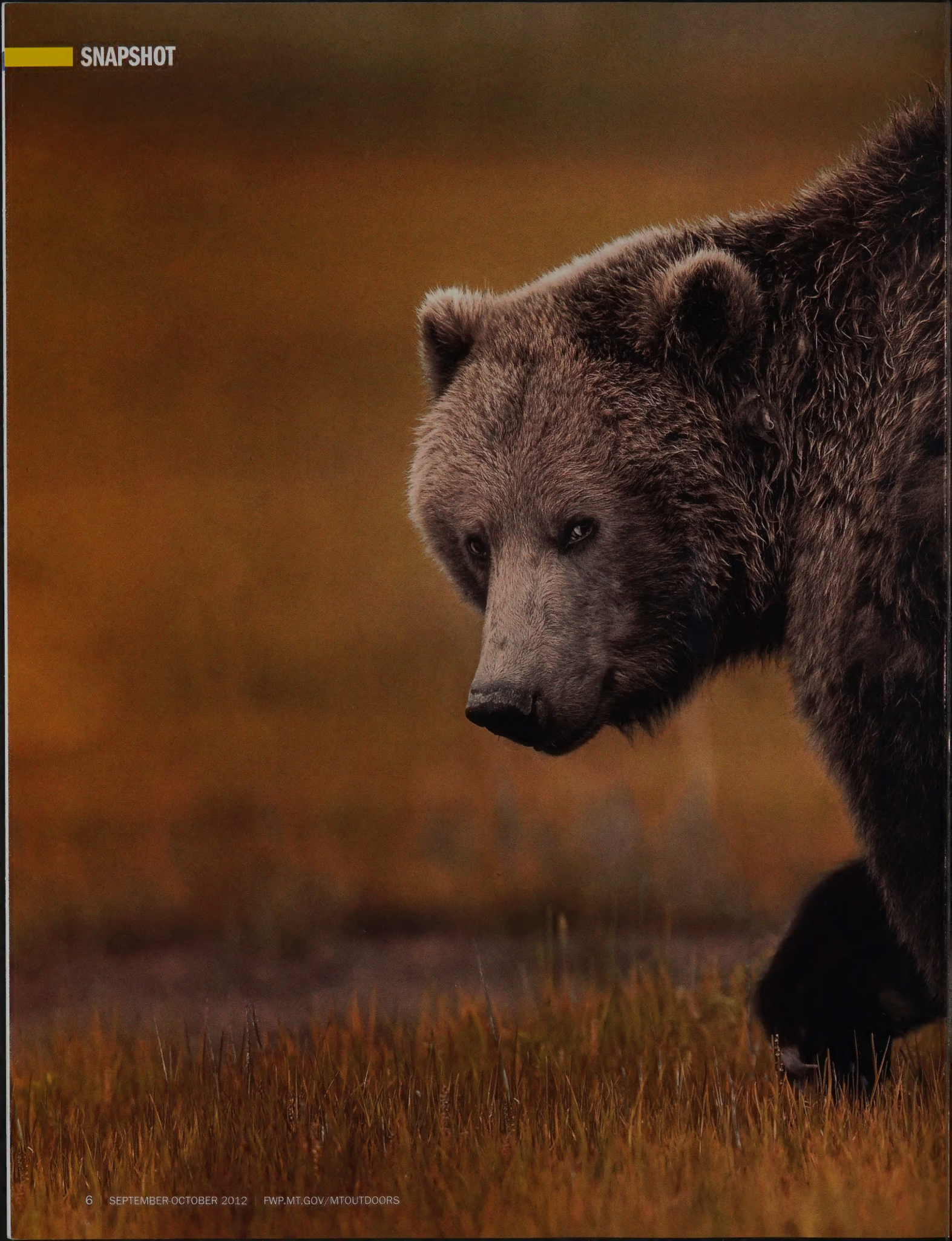
—**Joe Maurier**, Montana FWP Director

THOMAS LEE

URBAN BEAR MANAGEMENT

SHAWN T. STEWART
FWP Wildlife Biologist, Red Lodge

"For about 20 years up until recently, Red Lodge was a black bear magnet. In late summer when the mountain vegetation dried up, bears would follow the two creeks right into town looking for food. And they found it. There'd be 10 to 15 bears in town every night. In the morning every alley in Red Lodge would be strewn with garbage from tipped-over bins. For a long time we had no way to solve the problem. Then the local warden and I started working with a citizens' group to experiment with some of the new bear-resistant garbage bins on the market. By 2008 the group was able to convince the city to approve the extra expense of requiring its waste removal company to use bear-resistant bins for all residential addresses. Today there are more than 1,100 residential bear-resistant bins in the Red Lodge city limits. And last year we were able to convince most businesses to bear-proof their garbage containers. Now only an occasional bear or two roams through town on late summer nights, and it moves on quickly because there's nothing here to eat. Thanks to all the good work by the people of Red Lodge, bears aren't pests here anymore."



Two Septembers ago **JAIME AND LISA JOHNSON** of Lincoln heard rumors of a big grizzly feeding up nearby Alice Creek, so they headed that way late the following afternoon. Nearing the end of the road, they spied this bear, ambling along a field of dry grasses. Jaime says he and his wife often hike to take photographs, but they also take many shots, like this one, from their vehicle. They turned off the engine to stop the motor vibration and used bean bags on the window frame to steady their 2-foot-long 500 mm lenses. "Too often photographers leap out of their car when they see an animal, and that scares it off," Jaime says. "We've been very successful just staying inside and using the vehicle like a blind." About this particular shot, Jaime says he was happy the bear was so well lit. "A lot of times a grizzly can look like a brown blob, but that evening the sun was highlighting his fur tips. I also like that he is looking back at us and that you can see the tip of that claw and the bit of white in his eye." ■

19

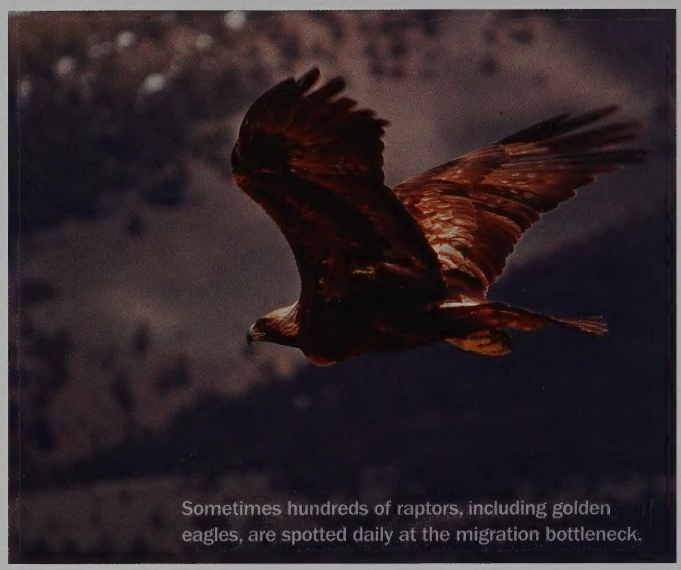
Percent of Montanans age 16 and older who hunt (compared to a U.S. average of 5 percent). It's the highest rate of hunting participation, per capita, in the country.

The Best Long Hike

If you take only one Montana backpack trip in your lifetime, make it the Beartooth Traverse. In his new book *Classic Hikes of North America*, Seattle-based hiking expert Peter Potterfield picks this 32-mile (one way) high-country trip through the Absaroka-Beartooth Wilderness as the state's top trek. The popular route, also known as the Beaten Path, starts at East Rosebud Lake, 30 miles south of Columbus. The scenic hike is also among the top picks by Helena writer Bill Schneider in his book *Best Backpacking Vacations: Northern Rockies*.

WILDLIFE WATCHING

Golden eagles congregate north of Helena



Sometimes hundreds of raptors, including golden eagles, are spotted daily at the migration bottleneck.

From late September through October, one of the best spots to watch migrating golden eagles is at a viewing site near Rogers Pass, just off Montana Highway 200 about halfway between Missoula and Great Falls.

Golden eagles migrate each spring and fall between breeding grounds as far north as Alaska and wintering areas in Mexico. The Rogers Pass site concentrates more migrating golden eagles than anyplace else in the United States. Here, where the prairie hits the Rocky Mountain Front, westerly winds rushing over the foothills create an updraft that allows raptors to soar for hours.

In one year observers saw 3,000 golden eagles, including a record 186 in a single day. On an average day, though, 41 birds of prey fly along the pass. Other raptors that visitors might see are bald eagles, rough-legged hawks, sharp-shinned hawks, northern goshawks, and Cooper's hawks, as well as kestrels and northern harriers.

The migrating eagle concentration was discovered by wildlife research scientist Rob Domenech, founder of the Raptor View Research Institute (RVRI) in Missoula. The peak time for viewing golden eagles is the third week of October, says Domenech. April is another productive viewing month, when raptors are returning north.

The viewing site and a wayside interpretive exhibit is 27 miles east of Lincoln and 9 miles east of Rogers Pass. Look for signs with binoculars symbols. Be aware that the land next to the viewing site is posted private property. Also stay clear of RVRI researchers, who may be there capturing and banding golden eagles for study. ■

AWARDS

Top honors

Montana Outdoors recently won first place in the magazine category at the 2012 award competition of the National Association of Government Communicators. NAGC members include editors and press officers with the Department of Defense, National Park Service, U.S. Fish & Wildlife Service, and other federal, state, city, and county agencies across the United States.

First place winners in two national magazine award competitions

Montana Outdoors also won first place in the article category for "Fishing for Serenity," a story about how fly-fishing helps war veterans struggling with PTSD, and second place for "The Bighorn's Rocky Recovery," about work by FWP and hunters to restore wild sheep in Montana.

In the recent 2012 competition of the Association of Conservation Information, *Montana Outdoors* took first place in the wildlife article category with "Coveting the Crown," an inquiry into hunters' desire for large-antlered deer and elk, and first place in the fisheries article category with "Fishing for Serenity," as well as second place in the overall magazine category. *Montana Outdoors* has won the first or second place award in the ACI magazine category for seven of the past eight years.

Read the award-winning articles at fwp.mt.gov/mtoutdoors. ■

COOPERATION

Participants praise hunter-landowner project

A program begun by FWP in 2010 to foster better relations between hunters and landowners appears to be working. Comments by participants in the Hunter-Landowner Stewardship Project show strong support for the effort, says Alan Charles, FWP coordinator of landowner/sportsmen relations.

The Hunter-Landowner Stewardship Project is an interactive website where hunters and landowners can learn about each other's needs and concerns. The aim is to promote responsible hunter behavior and help hunters and landowners build respectful relationships with each other. Topics include asking landowner permission, game retrieval, vehicle use, weeds, fire danger, and safety.

Those who complete the on-line program receive a certificate, bumper sticker, and cap.

"The sticker and cap are ways for you to publicly show that you've made the extra effort to learn how to foster better relationships between hunters and landowners," Charles says.

Among comments logged by 485 hunters and landowners who've completed the project's volunteer survey:

- "I have hunted all my life, and this program gave me a better understanding of what landowners have to deal with when hunting season opens."
- "I used to run livestock and am still a brand holder in Montana. This program was a great refresher course. I believe it will be a great help in my relationship to landowners."
- "It reinforces my faith in FWP that they are working hard to maintain good relations between hunters and landowners."

To visit the project website and become certified, go to "Hunter Education" at fwp.mt.gov. ■

ENFORCEMENT

Montana's enforcement chief calls game wasting a serious hunting crime

According to Montana's top warden, one of the most common hunting law violations is wasting game meat. "It's a serious crime, but it's also one of the easiest crimes to avoid," says Jim Kropp, chief of the FWP Enforcement Bureau. Kropp says one of the biggest problems comes when hunters let their meat spoil. "You've got to process it as soon as possible, especially early in the season when temperatures are warm," he says.

Kropp says hunters going into the backcountry should figure out ahead of time how they will get their big game animal out of the hills quickly enough to prevent spoilage. "Don't head out with the notion that you'll figure it out later if you kill something. By then it might be too late."

Tips for preventing spoilage:

- Open the carcass immediately after the kill to cool it down.
- Raise the carcass off the ground by rolling it onto logs or hanging it in the shade.
- Cool an elk by opening up the hip joints and splitting the spine with a hatchet from the inside.

Get busy. Scavengers, including bears, are on their way.

Another problem is not preventing dogs, birds, and other animals from ruining game meat. "Hang it where scavengers can't get it," says Kropp. That's especially true in grizzly country, he adds.

Hunters who don't want all the meat can donate it to various charities. See your local FWP regional office for details.

Kropp adds that hunters who dump carcasses on public lands and roadways can be cited for littering. "Hunters should discard the remains in their own trash containers," he says. ■

2012 HUNTING SEASON DATES

ARCHERY

- Pronghorn: Sept. 1–Oct. 5
- Bighorn sheep: Sept. 5–Sept. 14
- Deer: Sept. 1–Oct. 14
- Elk: Sept. 1–Oct. 14

GENERAL

- Antelope: Oct. 6–Nov. 11
- Bighorn sheep: Sept. 15–Nov. 25
- Deer: Oct. 20–Nov. 25
- Elk: Oct. 20–Nov. 25
- Moose: Sept. 15–Nov. 25
- Mountain goat: Sept. 15–Nov. 25

UPLAND BIRDS

- Mountain grouse: Sept. 1–Jan. 1
- Hungarian partridge: Sept. 1–Jan. 1
- Pheasant: Oct. 6–Jan. 1
- Sharp-tailed grouse: Sept. 1–Jan. 1
- Sage-grouse: Sept. 1–Nov. 1
- Fall wild turkey: Sept. 1–Jan. 1

WATERFOWL

- Pacific flyway ducks: Sept. 29– *
- Pacific flyway geese: Sept. 29– *
- Central flyway ducks: Sept. 29– *
- Central flyway geese: Sept. 29– *

* Not determined at press time.

CLOCKWISE FROM TOP LEFT: ILLUSTRATION BY MIKE MORAN; CHUCKNGALEROBBINS.COM; *MONTANA OUTDOORS*; JOHN JURACEK; JIM HERRLY; GOOGLE MAPS

BIG, BUT NO RECORD. This fully curled bighorn ram is certainly trophy sized, but it lacks the massive horn thickness to compete with Montana's state record—and number six in the world—taken in 1993 by James R. Weatherly.

BIGHORN SHEEP BY TONY BYNUM

Getting to No. 1

The stories behind Montana's largest big game trophies

BY PJ DELHOMME

Any hunter who spends enough time in the woods will see one. I distinctly remember the time I did. His body was massive, the biggest I'd ever seen. And the rack? I saw only a retreating glance, but that was enough. The sight of the bull and his massive antlers burned an image into my brain that made returning to camp less appealing. I stayed out there in the wet and cold just a little bit longer that season, thinking that if I just put in another day he might end up in my freezer and on my wall. He never did.

For a big game animal to produce trophy headgear like the one on that memorable bull, it needs the right combination of genes and nutrition. It also needs enough secure cover to avoid hunters and other predators to grow old—and grow a massive rack.

To find and then kill such a trophy, a hunter needs a combination of skill, luck, and, most of all, persistence. That's certainly the case with hunters who have taken Montana's highest-scoring trophies. None of them topped the record books by sitting on a bar stool complaining about the good ol' days. None had a professional guide. And not one paid six figures for a special tag. Most were regular hunters like you and me—with a job, a family, and responsibilities tugging at every corner. Even so, they found a way to be in the right place at the right time.

On the following pages are eight of their stories.

It's been more than a decade since a Montana hunter broke a state big game record. Read what the current number one holders did and how they did it. Maybe you'll learn something you didn't know. Maybe this will be your year. ▸▸

PJ DelHomme is a writer in Missoula.

MULE DEER NONTYPICAL

Score: **275-7/8**	Location: **Highland Mountains**	Boone and Crockett world rank: **73**
Date killed: **1962**	Hunter: **Peter Zemljak Sr.**	

Story: Like many Butte families in the early 1960s, the Zemljaks would head to the surrounding mountains each fall to get wood and meat for the winter. Peter Zemljak Jr. and Peter Zemljak Sr. would leave at dawn carrying a chainsaw and a .270-caliber rifle in search of timber and big game animals. On one fall morning in 1960, Peter Junior was hunting for elk when he saw a massive nontypical mule deer. Not wanting to ruin his elk hunt, he passed up the shot. The next afternoon, however, he saw the same deer and this time didn't think twice about shooting it. For two years that huge mule deer was the Montana state record. Then Peter Senior went hunting in the Highlands just south of Butte and killed his own massive nontypical mule deer buck, one whose antler size topped his son's by only fractions of an inch. It is the only case in Montana history where two family members have held the number one spot in the Boone and Crockett trophy records. The fact that it was for the same species makes the Zemljaks' achievements all the more remarkable. ■

The Boone and Crockett Club

The Missoula-based Boone and Crockett Club was founded by Theodore Roosevelt and a small group of hunting friends in 1887. The club began keeping records in 1906 as a way to draw attention to dwindling big game populations. Scoring later became a way to measure big game management effectiveness. The club is widely regarded as the keeper of records for all big game trophies throughout the world. It maintains high ethical ("fair chase") hunting standards for inclusion in what hunters call the "book."

ELK TYPICAL

Score: **419-4/8**	Location: **Madison County**	Boone and Crockett world rank: **9**
Date killed: **1958**	Hunter: **Fred C. Mercer**	

Story: In 1958, Fred Mercer was working on his uncle's dairy ranch just south of Twin Bridges. In late October the two took a week off to hunt the upper Ruby River country, just as they had every year since 1946. In an article for *Outdoor Life* in 1960, Mercer wrote that he'd had a hunch he would find the bull of his dreams in the Gravelly Range, which he described as the "rough and roadless country north of camp." One morning at first light he took his .270-caliber rifle and headed out solo, walking though a few inches of sugar-soft snow. Soon he came across the biggest set of bull tracks he had ever seen. After following the tracks awhile, Mercer figured the herd was an hour or so ahead of him. The bull, which may have sensed the hunter, circled his cows around Mercer. The herd caught his scent and took off running. Mercer wouldn't let up, however. After trailing the herd for another 12 miles or so, he changed tactics. He decided to cut the elk off when they reached a ridge at the head of an open canyon. Upon reaching the ridgetop, he slowly peeked over. Not 50 yards away was the biggest bull he'd ever seen in his life, contentedly grazing broadside. Mercer's 150-grain soft-point hit the bull in the neck right below the ears. He fired once more and the hunt was over. After dressing the bull out to cool, Mercer made his way back to camp, arriving several hours after dark. For years the Mercer Bull, as it is still called, was the number two typical elk in the world. Today it stands at number nine. It's still the best typical elk Montana has ever produced. ■

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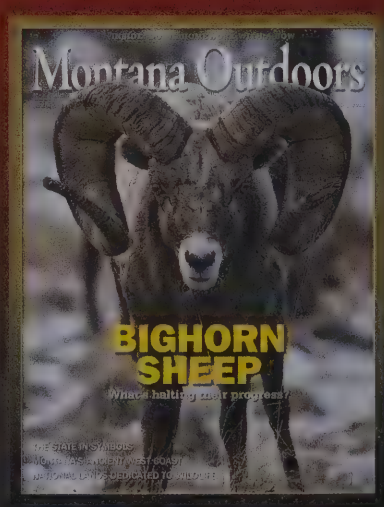

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WHITE-TAILED DEER TYPICAL

Score: **199-3/8**	Location: **Missoula County**	Boone and Crockett world rank: **18**
Date killed: **1974**	Hunter: **Thomas H. Dellwo**	

Story: Because loggers spend plenty of time outdoors, they often cross paths with wildlife—sometimes exceptional wildlife. That's what happened to Tom Dellwo in 1974 near his home in Seeley Lake. On the last day of the hunting season, he and his wife were driving up a road and encountered deep snow. After turning around, they spotted the fresh tracks of a large deer that must have crossed the road behind them. Dellwo hiked after the buck until he caught it in the open. He shot it in the neck, but the buck didn't fall. Dellwo followed the deer into the forest until he found it again and killed it with a second shot.

The hunter returned the next day and dragged the deer a mile back home. It was a miracle that the head and antlers were still intact, he said later. At the request of a relative, he had the antlers scored shortly after getting the head mounted. The massive whitetail beat out Kent Petry's 1966 Flathead County buck by fractions of an inch. But the story doesn't end there.

In 1981, Dellwo sold his record-book buck to a trophy buck collector for just $4,000. "He...bought me several shots of whiskey," Dellwo told the *Missoulian* in 2000. "He had me pretty well looped up. We heard it sold for $12,000. I've been kicking myself ever since." The new owner of Dellwo's buck is Bass Pro Shops. It hangs in the company's flagship store in Missouri along with hundreds of other record-book bucks from around the United States. ■

Typical and nontypical

The Boone and Crockett Club maintains records for two categories of deer and elk. "Typical" antlers are those with points on the typical locations and with antler shapes that conform to what is typically found in nature. Symmetry of the left and right antlers is also important.

"Nontypical" antlers are those that don't look normal. The two sides have unmatched points (say, six on one side and eight on the other) and points that stick out in abnormal positions.

Nontypical whitetail

PRONGHORN

Score: **91-4/8**
Location: **Garfield County**
Date killed: **1977**
Hunter: **Donald W. Yates**
Story: *Not available to the public*

Boone and Crockett world rank: **13**

SHIRAS MOOSE

Score: **195-1/8**
Location: **Beaverhead County**
Date killed: **1952**
Hunter: **C.M. Schmauch**
Story: *Not available to the public*

Boone and Crockett world rank: **8**

IMAGES PROVIDED BY BOONE & CROCKETT CLUB

MOUNTAIN GOAT

Score: **54**

Boone and Crockett world rank: **27**

Date killed: **1998**

Location: **Flathead County**

Hunter: **Jason D. Beatty**

Story: After drawing a bighorn tag, 16-year-old Flathead-area hunter Jason Beatty killed a ram that scored 178–6/8 points—no state record but still big enough to qualify for entry in the Boone and Crockett awards book.

The following summer he again defied the odds and drew a mountain goat tag. The hunting district was in the Middle Fork of the Flathead River drainage, just south of Glacier National Park and about an hour and a half from his home.

With his dad acting as guide, Jason hunted every weekend of the three-month season. On their last Saturday afield, they returned to where they had earlier seen several goats. They spotted two billies, one to the left and one to the right. Jason picked the one to the right because it was closer. The hunter and his father hiked straight uphill until they could see the goat bedded about 250 yards away. They crept closer. The goat stood. Jason's dad told him to shoot. The first shot knocked the goat down, and it started to tumble toward them. The billy came to rest with its head hanging over a cliff. Just a few more feet and it would have been nearly impossible to recover. Jason said later that he was happy just to have killed a goat. But it turns out that it wasn't just any old billy; the taxidermist in Columbia Falls knew it was record-book sized. After it was officially scored, the teen again entered the record books—this time with Montana's number one mountain goat. ■

BIGHORN SHEEP

Score: **204-7/8**

Location: **Granite County**

Boone and Crockett world rank: **6**

Date killed: **1993**

Hunter: **James R. Weatherly**

Story: After putting in for 22 years, James Weatherly finally drew a bighorn sheep tag for the Rock Creek drainage in 1993. The mountainous area, 50 miles southeast of his home in Missoula, was famous for large rams.

Weatherly hunted one particular trophy bighorn several mornings in September, but it gave him the slip every time. Finally, in early October he left his home at 3:30 a.m. and found himself atop a ridge looking down on 3 inches of fresh snow and two rams. In the early morning light, neither ram seemed to have a large curl, but he stalked closer anyway. Three evenly spaced trees stood between him and the bighorns. He crawled to the first tree. From there he could tell one ram was small. The other had its head down, feeding. Weatherly crawled to the second tree. Now the feeding ram looked big, but the hunter still wasn't sure. After crawling to the third tree, Weatherly was 175 yards away and downwind of the big sheep. When it looked up, he could see it had massive horns. Weatherly said that he became rattled and started shaking uncontrollably, knowing that two decades of wishing were about to come down to one shot. He put on his jacket, then took it off. He removed his pack, then his fanny pack. He propped the rifle in a fork in the tree, then couldn't get comfortable. Finally, he squeezed off a shot. The ram whirled 180 degrees and fell over dead. It stands as the number six bighorn of all time. ■

WHITE-TAILED DEER NONTYPICAL

Score: **252-1/8**

Location: **Hill County**

Boone and Crockett world rank: **70**

Date killed: **1968**

Hunter: **Frank A. Pleskac**

Story: Frank Pleskac was born in 1921 in Hill County near Havre. After serving in the Army, he returned home and married 23-year-old Julia Desak. On his ranch north of Havre, Pleskac often spotted large whitetails. One in particular caught his eye. For several years the huge buck eluded him, but in November 1968, along the west fork of the Milk River, Pleskac finally killed the deer with his .243-caliber rifle, using a 100-grain Nosler handload. The mount was eventually sold to an antler collector, who then sold the mount to Bass Pro Shops for $30,000 in 2010. ■

ELK NONTYPICAL

Score: **429-1/8**	Location: **Granite County**	Boone and Crockett world rank: **20**
Date killed: **1971**	Hunter: **John Luthje**	

Story: The forests near Philipsburg hold some wild and remote country with plenty of places for an elk to grow old and big. One day in 1971, John Luthje was hunting those hills near the area he ranched. He spotted and killed a massive nontypical elk. The rack itself reportedly weighed 35 pounds. In addition to being Montana's number one, it ranks as the 20th largest nontypical elk in the Boone and Crockett records. ■

MULE DEER TYPICAL

Score: **207-7/8**	Location: **Teton County**	Boone and Crockett world rank: **50**
Date killed: **2004**	Owner: **Montana Fish, Wildlife & Parks**	

Story: This amazing buck made headlines in 2005 when FWP game wardens and officers from the Cascade County sheriff's office executed a search warrant for the residence of Kelly Frank in the town of Simms, about 20 miles west of Great Falls. Frank worked as a painter on a ranch west of Choteau. An informant told authorities that Frank had discussed with him plans about committing several serious crimes. The informant also mentioned that Frank had talked of killing a large mule deer on the ranch the previous year. Wardens found the rack at Frank's home. Though Frank never admitted to killing the deer, he pled guilty to possessing the antlers, later scored as the largest ever for a typical mule deer in Montana. ■

Note: Boone and Crockett Club officials adhere to the club's principles of fair chase when deciding whether to list hunters' names beside their trophies in the club's records. Defined by the club, fair chase is "the ethical, sportsmanlike, and lawful pursuit and taking of any free-ranging wild, native North American big game animal in a manner that does not give the hunter an improper advantage over such animals." Obviously, poaching does not qualify. Still, the illegally obtained rack of 2004 is the largest on record. "We want to recognize the animal, first and foremost, for the trophy it is," explains Justin Spring, assistant director for big game records at the club. "For animals poached or otherwise not taken by fair chase, we do not list the name of the person who killed it and instead note it as 'picked up.'"

Scoring antlers and horns

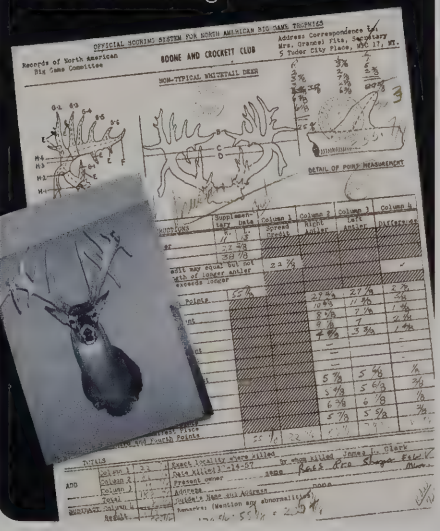
The Boone and Crockett score of a big game trophy is based on a combination of measurements of antlers or horns (bears and lions are scored by various dimensions of the skull).

For a deer or elk, three measurements are taken of the distance between the two antlers (the "spread"). Other measurements include the length of each main antler beam, the circumference at various points on the main beams, and the length of each point, or tine (the more tines, the more total inches). In the typical category, total score is reduced for the total length of all abnormal points in nontypical locations or those not paired.

Though anyone can determine a rough score by following instructions on the B&C website, all trophies officially entered in the record program must be scored by one of the club's official measurers, who are required to take a training class.

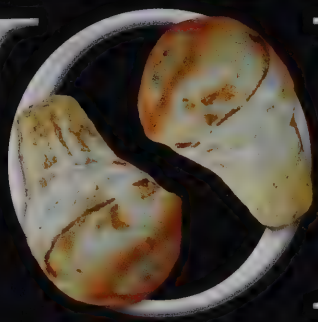
What's commonly known as a "green" score is an unofficial one determined before the antlers have dried for at least 60 days after the animal was killed.

For on-line scoring sheets and instructions, and applications to become an official scorer, visit boone-crockett.org.


OFFICIAL SCORING SYSTEM FOR NORTH AMERICAN BIG GAME TROPHIES
Records of North American Big Game Committee
BOONE AND CROCKETT CLUB
NON-TYPICAL WHITETAIL DEER

IMAGES PROVIDED BY BOONE & CROCKETT CLUB

ROCKY MOUNTAIN IVORY



Prized for centuries as jewelry and hunting mementos, the modern elk's small canine teeth are remnants of tusks once grown by its prehistoric ancestors. BY ELLEN HOROWITZ

The 80-year-old man leaned against the jewelry counter clutching a quart jar crammed with elk ivories. "I want a pendant made for my granddaughter," he told the jeweler. Without another word, the man unscrewed the lid and guided the flow of teeth across the glass surface.

The jeweler, an avid hunter himself, understood that this collection represented more than elk teeth. It stood for a lifetime of hunting and days spent in wild country with family and friends. They sorted through the drift of teeth until the older man found a large, handsome, amber-hued specimen. After selecting a gold setting to embellish it, the jeweler asked if he wanted to sell any ivories or trade for partial payment. The aged hunter slowly swept his thick, curved hand along the countertop. The clinking cascade of canine teeth broke the silence as the jar refilled. "I'll take these with me," he said. "That one is for my granddaughter."

People have collected and treasured elk ivories for hundreds or even thousands of years. After their elk is down, hunters admire their quarry and contemplate the significance of the event. At some point many pull back the upper lip and take a look. The ivories—one on each side of the upper jaw—come into view like hidden treasures.

For many, saving the ivories is part of an elk hunting tradition passed down through generations. The teeth are a trophy from the hunt, a way to honor the animal that gave up its life. Hold a pair of ivories in your hand and you hold the vestiges of prehistoric tusks, a rich part of the customs and beliefs of native people, and the origins of the National Elk Refuge. Each pair saved by a hunter has its own story and is a new connection between past and present.

ANCIENT TUSKS

Sometimes called tusks, whistlers, or buglers, the canine teeth of wapiti are most commonly known as ivories. Technically, ivory is the term for any animal tusk used as material for art or manufacturing. Elk ivories are indeed tusks, of the same material and chemical composition as those sported by walruses, wild boars, and elephants.

Most people think of tusks as long, pointed teeth rather than the rounded, thumb tip–sized nubs in the upper jaws of

READY TO RUMBLE A bull elk curls its top lip to reveal the tusk remnants in the upper jaw of all elk. The "sneer" often precedes a charge.

elk. These are the tusks of modern wapiti. Their ancestors were armed with fighting tusks used during the rut and as defense against predators. Over millions of years, the canines regressed. Meanwhile, the animals' antlers evolved into large, showy headgear that acted as a defensive tool. Yet even with their tusks shrunk to mere bumps, elk still retain some ancient behaviors associated with the teeth. When an elk curls its top lip to reveal its ivories, the "sneer" represents a threat posture reminiscent of its prehistoric relatives. Baring canines often precedes charging and striking with antlers or front hooves—the weapons of modern elk.

"Eyeteeth" and "dog teeth" are also correct terms for ivories. While many people associate canine teeth with meat eaters, the name refers to their position in the mouth, not dietary preference. "Buglers" or "whistler teeth" have more obscure roots. Harold Picton, professor emeritus of wildlife management at Montana State University, says the names originate in folklore. "Some people once thought the elk's whistle, or bugle, came from its canine teeth," he says. Picton explains that in old elk, particularly bulls, the canines can wear so severely it's possible to see through the pulp cavity. Hunters postulated that an elk's musical sounds were made as air was forced through a pinhead-sized hole in the canines.

REMNANTS OF AN ANCIENT AGE Some primitive cervids, like the Chinese water deer, still sport the long, sharp tusks that modern North American elk possessed eons ago.

SLOW GROWTH

Both bulls and cows possess ivories. Calves are born with just the tips exposed. The spindly little baby tooth ivories fully emerge during the first winter and then fall out a few months later. The following summer, permanent canines begin to emerge in the top of the elk's mouth. At first the new ivories are hollow and only one-quarter to one-half exposed. It takes several years for them to fully emerge and for the pulp cavity to acquire the dentine that transforms them into solid, rounded tusks. The eyetooth of a large bull, including its thin, flat root, measures about 1¼ inches long by ¾ inch wide. Less than half the total length is exposed tooth. The canines do not touch any other teeth, but they wear down with a lifetime's worth of vegetation swiping across their surface.

In a landmark study of elk teeth in the 1960s, Montana Fish, Wildlife & Parks biologist Kenneth Greer found a way to identify the sex and age-class of elk by their canine teeth. He determined that, while ivories look identical in male and female calves, tusks from the two sexes of adult elk differ in shape. Cow ivories appear angular, with

CLOCKWISE FROM TOP LEFT: ELK IVORIES BY PHIL FARNES; DONALD M. JONES; WIKIPEDIA

TREASURED TEETH Above: Elk ivories on an antler base show their thin, tapered roots. The dark concentric circles on top are created by tannins, saliva, and rumination acids. Right: A 1910 photo by Edward S. Curtis shows a Kalispel Indian woman wearing an elk tooth blanket dress. Ivories on clothing enhanced a family's status. Facing page, near: An elk ivory pendant combines gold and diamond with the precious dental remnants. Facing page, far: In the early 1900s, elk ivory watch fobs became a wildly popular yet unofficial emblem of the Benevolent and Protective Order of Elks (B.P.O.E.). The organization denounced the jewelry after poachers began slaughtering elk herds for their ivories.

tapered roots. Bull ivories are generally rounder and larger than those of cows and have blocky, nearly square roots.

Tusks range in color from bone white to chocolate brown. Dark stains forming concentric patterns along the tops of crowns accentuate some teeth. The coloration results from a combination of tannins in vegetation, salivary juices, and rumination acids.

PRIZED POSSESSIONS

A legend of the Hidatsa Indians of today's North Dakota contends that, long ago, wapiti ate people. That angered the spirits, who decided to teach the animals a lesson by removing all their teeth except the ivories. As a result, elk began to starve. Wapiti promised never to eat people if the spirits returned the other teeth. Now when elk die, goes the legend, they give up their tusks.

Elk ivories were prized possessions among members of many Indian tribes, who considered the miniature tusks a symbol of strength, stamina, and longevity. Ivory bracelets, earrings, and chokers were thought to bring health and good luck to those who wore or possessed the jewelry. For men, ivories also signified the owner was a good hunter.

Indians throughout the elk's range in the Great Plains, Rocky Mountains, and Pacific Northwest passed ivories down as heirlooms. Elk canines were sometimes given to newborn babies as good luck charms. Ivories were also made into pendants and necklaces and used as decoration on clothing. Meriwether Lewis noted in his journal on August 21, 1805, "The tusks of the Elk are pierced, strung on a thong and woarn as an orniment for the neck, and is most generally woarn by the women and children." Ivories also embellished medicine pouches, shields, and the harnesses used on dogs and horses. To most Indians, the canines were, in the words of one Gros Ventre man, "like pearls to the whites. They were our greatest decoration."

A woman's dress adorned with elk teeth indicated family status. The Crow were renowned for their elaborately decorated outfits. Edward S. Curtis, the famous photographer of the American West and Native Americans, wrote, "...no self-respecting (Crow) man presumed to marry unless he and his family could furnish the elk-teeth necessary to adorn a wife's dress." Three hundred was considered the norm. The teeth sewn on a woman's dress indicated the father or husband was wealthy enough to trade horses for ivories. A reporter from the *Chicago Record-Herald* wrote in 1901 that the residents of one Shoshone village in southern Montana possessed roughly 20,000 elk teeth. The writer examined the dresses of a mother and her child adorned with 600 ivories each.

Many Indians placed high value on ivories when trading. The larger, darker-stained teeth of bulls were most prized. Early explorers compared the exchange of elk ivories among Native Americans to a form of currency. In an 1805 account, French explorer François-Antoine Larocque said the Flathead Indians considered a horse worth 70 to 80 elk canine teeth. In 1833, while on the Missouri River with Swiss artist Karl Bodmer, Prince Maximilian of Germany reported that the Mandan valued one horse at 150 tusks. German artist and adventurer Rudolph Kurz noted the price of a pack horse as 100 tusks.

Before the 1870s, men rarely wore elk teeth on clothing, as it was considered too feminine. Then, in the late 1800s, Native American men began adorning cloth vests with elk teeth. This decoration coincided with increased interest by European-Amer-

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Ellen Horowitz is a writer in Columbia Falls and a long-time contributor to Montana Outdoors. *A version of this article originally appeared in* Bugle.

LEFT TO RIGHT: W. STEVE SHERMAN; EDWARD S. CURTIS/LIBRARY OF CONGRESS; STEVEN AKRE; PHOTO COLLAGE FROM GOOGLE IMAGES

icans in elk tooth ornaments and the dissolution of both native traditions and elk populations. As market hunting decimated elk numbers, hand-carved imitations made from bone replaced genuine ivories as bridal dress adornments.

LEFT TO ROT

The craze for elk tusks among nonIndians, which peaked in the 1890s and early 1900s, nearly led to the local extinction of elk. More than a fashion statement, an elk ivory watch fob became a symbol of prestige. It also served as the unofficial emblem of the Benevolent and Protective Order of Elks (B.P.O.E.), whose membership numbered in the hundreds of thousands.

Around Jackson Hole, Wyoming, residents made extra income by selling canine teeth from the two elk they were permitted to kill each year. They garnered additional tusks from animals that died of natural causes. In the mid-1890s, an average pair of ivories sold for roughly $15 ($375 in today's dollars) while an outstanding pair brought up to $100 ($2,500 today).

With money like that at stake, it didn't take long for a new breed of poachers, dubbed "tuskers," to begin slaughtering elk solely for their ivories. One Jackson Hole resident told of snowshoeing through a remote part of the valley and discovering the bodies of 18 bulls. Only their ivories had been removed. Claims surfaced that tuskers drove elk into snowdrifts and then yanked out ivories from the mired, exhausted animals without bothering to kill them. Other sources indicated that tuskers massacred and left to rot more elk in a single winter "than were killed in ten years of normal hunting."

In 1907, the Wyoming legislature asked members of the B.P.O.E. to denounce the wearing of elk's teeth as emblems. President Roosevelt reiterated the request. The organization issued a call to members, and the lucrative market for poachers dried up. The B.P.O.E. also became a driving force for protecting elk and establishing the National Elk Refuge as a safe haven for elk wintering in Jackson Hole.

BUTTERY WARM

Ivories may lack the bragging rights associated with a magnificent rack, but for many people they represent a gorgeous memento from the hunt. They're also a lot easier to show off at a dinner party than 40 pounds of antlers. These days, ivories show up most often in rings, necklaces, bolo ties, earrings, hatbands, pendants, watches, cufflinks, belt buckles, and tie tacks. Unlike Indians of an earlier age, some people today consider ivories a "male" form of jewelry. After all, ivories are teeth, making them less refined to some minds than precious stones, minerals, and metals. That perspective is not universal, however. I know women who wear elk ivory jewelry, as well as men, like the grandfather at the start of this story, who have given elk ivory as gifts to sweethearts and female family members. Most everyone who appreciates elk also admires the teardrop shape and buttery warm color of ivories. Like snowflakes, ivories also have the attraction of being truly one-of-a-kind, even those from opposite sides of the same animal's mouth. Jewelers who work extensively with elk ivories create repertoires of stock designs, but they still custom-sculpt each piece, following the contours of the individual tusk. For elk hunters, there may be no more beautiful or meaningful gem, no finer way to commemorate an exceptional hunt.

Most elk hunters I know save their ivories in little boxes and jars they stash in desk drawers or atop shelves. These small treasures represent a form of wealth not easily gauged except in the stories they help recall—stories of hunting and time spent in elk country, stories that link past to present.

SPECIAL REPORT

WHO GETS A SHOT?

The ongoing struggle to allocate archery hunting opportunities for trophy elk in the Missouri River Breaks region

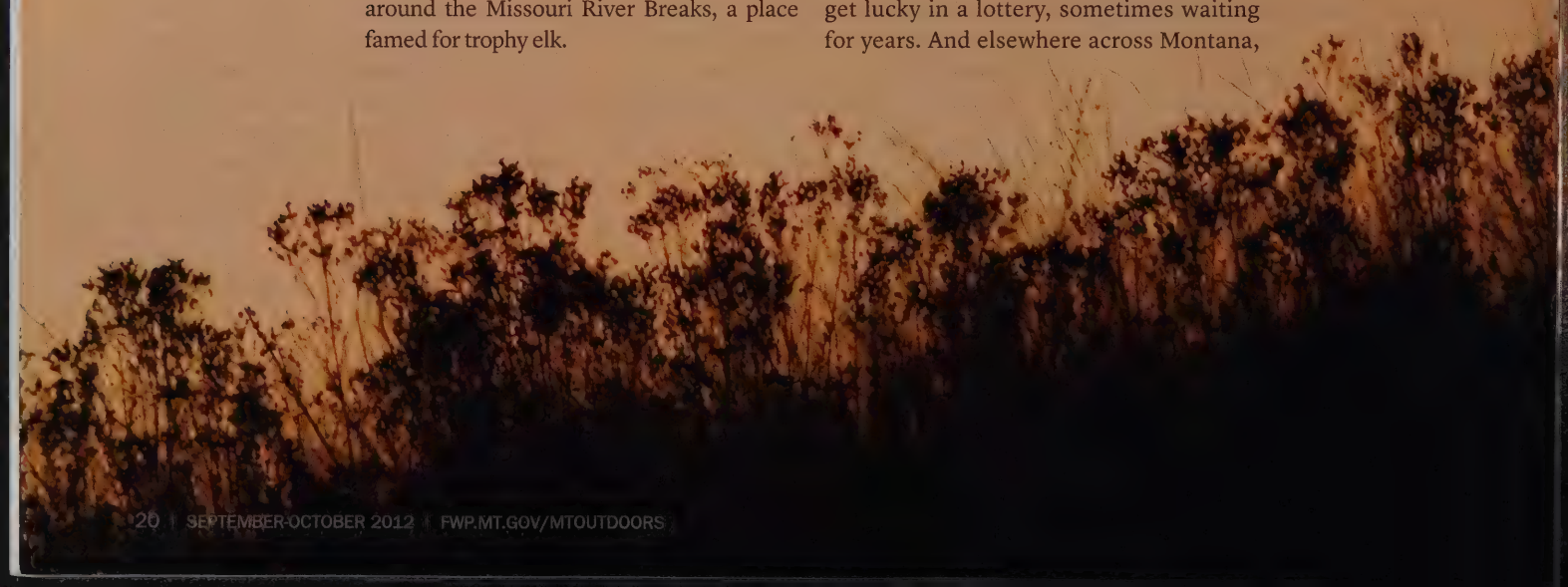
BY SCOTT MCMILLION

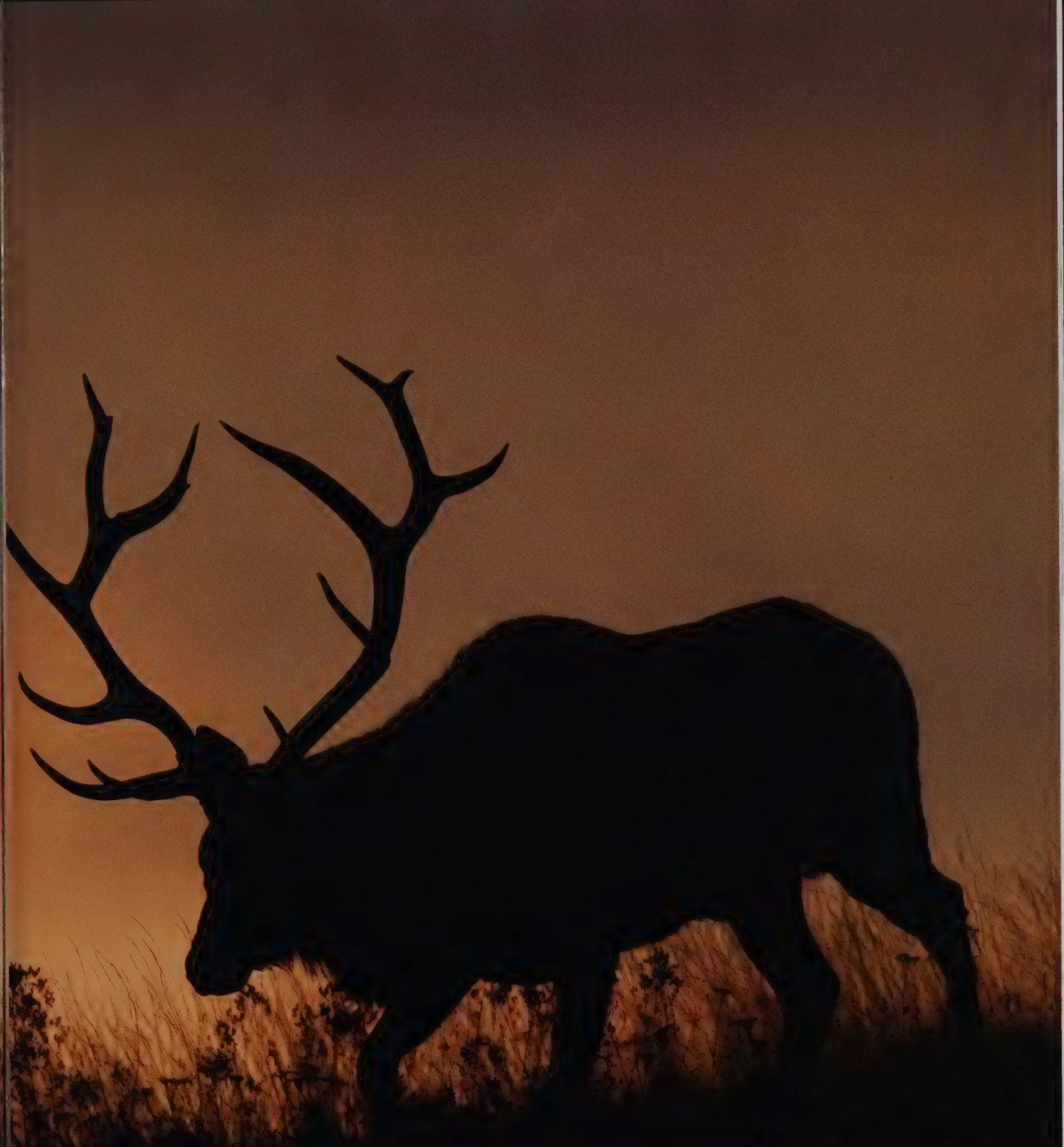
Along the south side of the Missouri River, where vast Montana prairies fall apart and become the Missouri River Breaks, nonresident hunters had a banner year in 2005. A total of 534 of them showed up in Hunting District 410, and they dropped 111 elk—27 with rifles and 84 with bows.

By 2011, only 181 nonresidents hunted in the same district. They bagged just 39 elk—9 with rifles and 30 with bows. Similar patterns surfaced in hunting districts in and around the Missouri River Breaks, a place famed for trophy elk.

What changed during those six years? The rules established by the Montana Fish, Wildlife & Parks Commission.

For years, all nonresident hunters who drew a general elk tag in Montana could then buy a permit that let them hunt elk with a bow in a large part of the Breaks. The same was true for resident bowhunters wishing to hunt the area, known for its large-antlered elk. For such an opportunity to hunt trophy bulls almost anywhere else in the United States, bowhunters have to get lucky in a lottery, sometimes waiting for years. And elsewhere across Montana,





UNFAIR ALLOCATION? A trophy bull elk moves across a Missouri Breaks grassland at dusk. Until 2008, bowhunters from across the United States had unlimited opportunity to hunt bulls like this—without lotteries or special permits required in other trophy elk areas of Montana and other western states. Rifle hunters, restricted to just a handful of bull permits in the Breaks, argued that the allocation was unfair.

BULL ELK BY DONALD M. JONES

nonresidents are usually restricted to just 10 percent of the limited, coveted permits for trophy elk hunting.

Word spread, of course. Archers from across Montana and around the country flocked to the Breaks, a region that remains one of Montana's emptiest for most of the year. In midsummer or winter, you could spend days without seeing anybody. But in bow season during September and October, things started to get downright crowded for some hunters, mostly Montana residents. They started complaining.

Even more than it does for rifle hunters, crowding causes problems for archers. Bowhunters must invest considerable time and skill stalking a bull or calling it within range, usually 40 yards or less. Obviously, unexpected company can foul the hunt. Archers need to spread out, and that became increasingly hard to do.

Steve Schindler, of Glasgow, has been hunting the Breaks since 1969. In the relatively open country of the Breaks, he explains, archers often begin a hunt by spotting prey from a considerable distance, then applying a stalk. "But there might be somebody a mile away looking at the same elk," he says. "It got to be a foot race situation and just kinda fouled things up for everybody. It was to the point where something had to be done."

According to Quentin Kujala, a Wildlife Bureau official for Montana Fish, Wildlife & Parks, increased archery hunter numbers caused ripple effects that splashed beyond conflicts over individual animals. Growing hunting pressure on public land pushed elk onto private property. That made the animals off-limits for many archers. It also made them harder to reach during the general rifle season, when, unlike the archery season, tags were limited.

That caused concerns about fairness: Rifle hunters complained that archers, whose numbers were uncapped, had first and best access to elk. For instance, in 2007 FWP provided a total of 75 bull permits for resident and nonresident rifle hunters in Hunting District 410. That same year it gave out 1,200 either-sex archery permits for that area. "It was like that throughout most of the Breaks," says Kujala. "You had extremely limited permits for rifle hunters and virtually unlimited permits for archery. It simply was not an equitable allocation."

Another issue of contention was the growing number of landowners leasing their property for exclusive access. Because many hunters don't know the terrain, or they want and can afford exclusive hunting opportunities, private property owners in the Breaks area had an incentive to lease hunting rights to outfitters or individuals (both resident and nonresident) as long as tags were plentiful. Landowners began closing their gates to nonpaying hunters. That in turn concentrated those hunters on public land, where they collectively pushed elk onto adjacent private property.

"It was like that throughout most of the Breaks. You had extremely limited permits for rifle hunters and virtually unlimited permits for archery."

"It was a classic American conundrum," says Randy Newberg, a Bozeman resident with long experience bowhunting in the Breaks. "The elk herds are a public resource held in trust for the public, but they live on private land."

It's not like there weren't enough elk. Based on what the habitat supports and ranchers will tolerate, the populations in all hunting districts in and around the Breaks were above objectives set by FWP. The agency wanted to trim the size of herds as a way to lessen depredation on some ranches. That's usually done by issuing additional tags for hunters to harvest more cow elk. But with elk concentrating on private lands where public access was restricted, that management tool lost its effectiveness.

PROBLEM SOLVING

In 2008, attempting to solve at least some of these problems, the FWP Commission limited the number of archery tags in the Breaks and roughly two dozen hunting districts elsewhere in central and eastern Montana. It made the decision after considering more than 2,000 public comments and listening to testimony at meetings around the state.

"The idea was that anywhere we limit rifle permits for bull elk, we should also limit archery permits," says Ken McDonald, chief of the FWP Wildlife Bureau. "And not just in the Breaks. The commission also limited archery permits in 22 other districts, in large part to be proactive in preventing the type of problems we were seeing in the Breaks."

TOO MUCH OF A GOOD THING As the popularity of the Breaks' archery hunt grew, so did complaints by residents of overcrowded conditions and hunters pushing elk off public land onto private property.

DIFFERENT LANDOWNER ATTITUDES Another issue in the Breaks region is that some ranchers suffer depredation on their property from elk, which can damage fences and eat forage meant for livestock. To bring numbers down, FWP generally increases the cow elk harvest by public hunters. But as Breaks elk were pushed onto private land that allowed no public hunting, that management tool became increasingly less effective.

The new regulations ended the days of virtually guaranteed permits in an area filled with trophy bulls. The rules are also why the number of nonresident hunters has fallen so sharply. Nowadays, out-of-state archers must go through two drawings to hunt elk with a bow in the Breaks: The first lottery is to obtain a general elk license, which lets them hunt in the state. The second is to receive an archery permit in the Breaks. Since 2008, nonresidents have been limited to up to 10 percent of the number of total archery permits.

"It had a positive impact right away," says Schindler, who is vice president of the Montana Bowhunters Association. "Limiting the permits definitely made things better in the Breaks for the resident hunter."

That's despite the fact that residents, too, must now apply for an archery permit in the Breaks (though, under state statutes, they enjoy much better odds than nonresidents).

Though landowners can still lease exclusive hunting opportunities, the new rules don't sit well with those who were earning money from the large number of nonresident elk hunters previously flocking to the region. "It's been a real hardship for outfitters up in the Breaks," says Mac Minard, executive director of the Montana Outfitters and Guides Association.

Others are feeling the pain as well. Each fall since 2008, roughly 500 fewer nonresident bowhunters have visited the Breaks region to buy gas, meals, motel rooms, and other travel and hunting expenses. Though many of those elk hunters went elsewhere in Montana, taking their wallets with them to places like Ennis or Augusta, the new archery rules were definitely a blow to some landowners and merchants in north-central Montana, where earning a living doesn't come easy even in the best of times.

As for crowding, Minard says out-of-staters seem far less concerned about bumping into other hunters, whether they hire an outfitter or stalk elk on their own on public land. He says he knows of many nonresidents who want to hunt the Breaks but have been unable to draw a license or permit.

Opponents of the new rules also point out that just because landowners now have a smaller customer base for private leasing doesn't guarantee they will open their property to public access.

Jack Billingsley, who ranches and outfits west of Glasgow on the north side of the Missouri, says limiting nonresident tags has cut substantially into his business. "We used to hire six employees" to work the hunting season, he says of his family's operation. "Now it's just us."

While many hunters decry the leasing of hunting rights, Billingsley says it can play an important role in rural economics. In some cases, a young rancher may need the extra income to make payments on land he's buying from his parents or others. An outfitter who can't ensure clients an elk tag is likely

PHOTOS BY DONALD M. JONES

NOT BIG ENOUGH Though the Missouri River Breaks cover several thousand square miles of open country, the combination of increased hunter numbers and decreased access to private land puts the squeeze on many hunters. The FWP Commission must weigh the often-conflicting concerns of resident and nonresident bow and rifle hunters, landowners, and outfitters as it tries to find the fairest way to allocate elk hunting opportunities.

to stop leasing land, which can be a setback to ranchers counting on lease payments in their long-term financial plans. Outfitting got his family through the lean drought years of the 1980s, Billingsley adds.

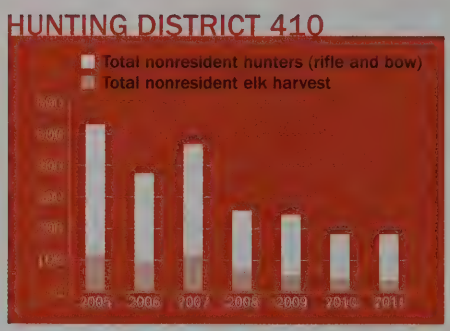
MAINTAINING QUALITY

After the 2008 rules were established, the Breaks became regulated like similar trophy elk areas around Montana and other states. "Nowhere else in the country," can nonresidents get a guaranteed tag in an area managed for trophy bulls, says Newberg, who hunts throughout the West. Like everybody else, he often has to wait years to draw a tag. Yet those restrictions are why the Breaks remains a high-quality place to hunt, he adds. "You don't maintain that quality with unlimited tags. No other state does," says Newberg.

The decision to restrict bull elk archery tags where rifle tags were already limited came after a long debate. And it left a bitter taste on a number of palates. Supported by business interests, the 2011 Montana legislature tried to overturn the FWP Commission's decision. Some legislators and landowners accused FWP of using the 2008 rules to force people to open private property to the public. A bill to restore archery permits to 2007 levels passed the House of Representatives but died in the Senate on its third reading.

As an outfitter, Billingsley served on a working group of hunters, landowners, and others appointed by FWP in 2011 to review the Breaks controversy and recommend archery hunting regulations. The group submitted to the FWP Commission a plan that would, among other recommendations, remove limits on nonresident archery tags used only on private land in exchange for landowners allowing more harvest of female elk on the same property during both the archery and rifle seasons. Billingsley says he saw that as a way to meet the needs of landowners, nonresidents, local businesses, and local hunters looking to shoot a cow elk to fill the freezer.

Though the FWP Commission didn't adopt the unlimited nonresident archery permit recommendation, it agreed to increase the number of bull permits. As the working group had suggested, the idea was that landowners would in turn open their property to nonpaying hunters to harvest cow elk. The additional bull permits were meant to increase the customer base for landowners who lease and also benefit hunters on public land,



LEFT TO RIGHT: RANDY BEACHAM; LANCE SORENSEN

Scott McMillion, of Livingston, is a freelance writer and senior editor of Montana Quarterly.

while the increased cow elk harvest would help bring populations in those hunting districts down to tolerable levels for ranchers concerned about elk depredation.

Such reductions are essential, say FWP officials, who note that elk numbers have grown above management objectives in 21 of the 30 affected hunting districts since hunter numbers were restricted. McDonald says his staff will work with Breaks-area landowners and outfitters to monitor the bull elk permit incentive effort. "If we don't see more cow elk being harvested, we'll assume that public access to private land has not improved for cow elk hunters, as was the intent," McDonald says. "If that happens, the commission has indicated it might have to cut back on bull permits in the Breaks and other related hunting districts."

> "You don't maintain that quality with unlimited tags. No other state does."

STILL A SUCCESS STORY

There were no elk just a few decades ago in the Breaks, and it took a lot of work to bring them back. Private landowners helped. Billingsley says it rankles him that, after landowners assisted with elk reintroductions, it's now harder for some of those same people to reap the benefits.

Newberg says he understands that position, but points out that things change frequently in wildlife management. "All of us in Montana, both residents and nonresidents, have been spoiled in terms of opportunity," he says. "But there's no way the resource [the elk] or the trustees [FWP] owe anybody a living."

If harvest numbers are any indication, Montana hunters benefitted from the FWP rules even if local economies in the Breaks took a financial hit. Since 2008 the total number of bulls killed in the Breaks region has declined, but success rates for resident hunters have climbed. In HD 410, for instance, residents killed 59 percent of the bulls harvested in 2005. In 2011, they killed 83 percent.

The return of a thriving elk herd to Montana's prairies remains an incredible success story in American conservation. The challenge no longer is restoring elk to the prairie but rather deciding the fairest way to slice that pie—who gets to hunt, and where.

No longer does almost everybody get a chance to hunt the Breaks every year. Some folks, resident and nonresident alike, will have to wait. But those who draw a permit have a good opportunity of killing a trophy bull, a smaller chance of another hunter ruining a long stalk, and lesser odds of finding another party at a favorite campsite.

In a perfect world, everybody would win. It's not a perfect world.

AT THE END OF THE DAY The Missouri Breaks region still produces world-class trophy elk hunting opportunities, though not as many as before. For those who draw a permit, the odds of killing a bull are better than ever.

Terror at Soda Butte

Grizzlies rarely attack humans with an intent to kill. Yet, tragically, a female bear became predatory two years ago at a U.S. Forest Service campground near Cooke City. Investigators still don't know why.

BY SCOTT MCMILLION

PHOTO ILLUSTRATION BY LUKE DURAN

Deb Freele woke with a flitter of uneasiness. Something wasn't right. Then, before she could even open her eyes, the bear chomped into her upper left arm. It didn't chew. It didn't shake its head. It didn't growl. It just kept pushing her into the ground, squeezing its jaws ever tighter, carving into the flesh a furrow you could roll a golf ball through. She heard something crack. It was loud.

She thought it was a bone breaking. Later, she would learn the grizzly had snapped off a tooth.

"It was like a vise," she said of the grizzly's grip, "getting tighter and tighter and tighter."

Freele screamed. She called out for help. "It's a bear!" she yelled. "I'm being attacked by a bear!"

But no help came, not for a long time. It was July 28, 2010, and she was alone in her one-person tent, her 13th night in the Soda Butte Campground a few miles from the northeastern entrance to Yellowstone National Park. Her husband was in another tent about 40 feet away. But he'd been at the rum pretty hard that night and didn't hear a thing.

Yelling wasn't working, so Freele decided to play dead. The bear loosened its grip, only to snap down again on her lower arm, squeezing with its teeth and jaws and pushing, pushing down. She heard another snap. This time, it was a bone.

She wondered: "Does it think it has me by the neck? This thing thinks it's killing me."

Pinned on her side, she couldn't reach the pepper spray beside her in the tent. She couldn't strike out. She decided to go limp, thinking that, if the bear tried to roll her over, she'd have a chance to grab the pepper spray.

For maybe a minute, she suffered in near silence. She could see stars overhead and she could hear the bear's heavy breath, with blood or saliva gurgling in its throat.

Then she heard sounds from the next campsite. Voices in a tent. Feet scurrying to a vehicle. Doors slamming and an engine starting. Headlights flashed across her husband's silent tent.

And the bear went away.

"It dropped me and I didn't move an eyelash," Freele, 58, told me later from her home in London, Ontario. "I was afraid it would pounce on me."

The car from the neighboring campsite stopped and a window opened. "We're getting help," somebody said. It was a family with young children. Too terrified to leave the car, they drove around the campground's upper loop, honking the horn and trying to rouse somebody. Most people ignored them, suspecting drunks or hooligans, likely.

Freele lay there alone, in the dark, her tent demolished, her arm shredded like a

chicken wing, not knowing where that bear had gone. She took the safety off her bear spray and sat partway up. It would be 20 minutes before the neighbors came back with help.

Freele didn't know it at the time, but she wasn't the bear's first victim. A few minutes earlier, at about 2 a.m., and a few hundred yards upstream on the creek that runs through the campground, the grizzly had attacked another tent. Though the tent contained two people and a dog, the bear moved it a few feet before biting through the fabric and sinking its teeth into the leg of Ronald Singer, a 21-year-old former high school wrestler who came up swinging while his girlfriend began to scream. The sharp blows and the racket helped the bear change its mind and it didn't stick around. Neither did Singer. His girlfriend's parents drove him to Cooke City, looking for medical help. Freele saw them drive by her camp, but they didn't stop, probably didn't even know the bear had struck again.

After these two attacks, the grizzly—a scrawny animal supporting three yearling cubs—kept moving downstream along Soda Butte Creek until she hit the camp of Kevin Kammer, of Grand Rapids, Michigan. All but three of the Soda Butte Campground's 27 sites contained campers that night, most of them in tents. Kammer's site, number 26, was one of the most isolated. The closest campsite was 60 yards away. It was very dark out, and the nearby stream masked noises. Nobody saw or heard a thing.

The closest campsite was 60 yards away. It was very dark out, and the nearby stream masked noises. Nobody saw or heard a thing.

And nobody found his body until a couple of hours later, after campers had raised the alarm and a Park County Sheriff's deputy, with a spotlight and a loudspeaker, began rousting campers, ordering them to leave. He found a ghastly scene. The bear had pulled Kammer from his tent by the head and shoulders; the camper had bled to death within 4 feet of the tent, investigators determined. Then the bear pulled his body another 10 yards, and that's where the deputy found him, his torso partially consumed by the sow grizzly and her cubs.

By that time, Montana game wardens, sheriff deputies, and staff from the U.S. Forest Service and National Park Service, most of them armed, had sent the groggy campers on their way. Most left their gear on the ground for the night. Dawn dragged its heels that morning.

NO EXPLANATION

"What made her cross that line that night will haunt me forever," Kevin Frey told me. He is a bear management specialist in the Yellowstone area for Montana Fish, Wildlife & Parks. I've interviewed him many times in 20 years of reporting about Yellowstone, and relied on him as a source for my book, *Mark of the Grizzly: True Stories of Recent Bear Attacks and the Hard Lessons Learned*. I've learned to count on him for honest, reliable information. Like me, he cares about grizzly bears and wild country. He takes no joy in having to kill a bear.

And he works really hard. In normal years, he helps landowners bear-proof their properties and, during elk hunting season, might have to crawl through dense brush looking for a grizzly bear wounded by a surprised hunter. Last year, when a late spring meant poor crops of natural food and far-ranging bears in late summer, he worked more than two months without a day off, trying to solve problems.

Frey has investigated dozens of grizzly attacks over the years. He's trapped and handled scores of bears and made an effort to educate thousands of people about living safely in bear country. He said he'd never seen an incident like this one. Analyze most grizzly attacks, and you'll find some sort of explanation: A hunter spooks one out of a daybed, a photographer pushes his luck, a hapless hiker winds up between the bear and her cubs or a carcass it is protecting, or somebody has fed the bear, teaching it to view humans as a source of food.

But none of that happened in this case. Frey's report, compiled in the weeks after the attack, pieced together what happened. But it couldn't tell us why.

"There is no clear explanation for the aggressive, predatory behavior," the report says.

It does rule out a number of factors. At

Scott McMillion is senior editor of Montana Quarterly *and author of* Mark of the Grizzly: True Stories of Recent Bear Attacks and the Hard Lessons Learned. *A version of this article is in his new and revised edition.*

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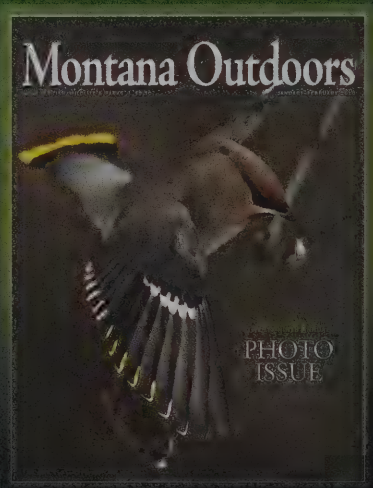

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CAMP CLOSED After a camper's body was discovered the next morning, local, state, and federal officials helped campers to quickly evacuate the campground. At around 6 p.m. later that same day, the grizzly returned to the campsite where the attack occurred and was captured in a culvert trap.

AP PHOTO/THE BOZEMAN DAILY CHRONICLE, NICK WOLCOTT

220 pounds, the bear was small for its age, though not abnormally so. The cubs were undersized, but not starving. The mother carried an average load of parasites. She probably had lived near the campground for all her life, at least 10 years. She knew where it was, had seen it and smelled it and mostly shunned it.

She was not rabid. She was not in the habit of eating garbage, or horse feed or bird seed or somebody's lunch. Relatively new technology allows scientists to identify, by analyzing the isotopes in hair, the main ingredients of a bear's diet from the previous two years. This one had lived almost exclusively on vegetation, unlike most Yellowstone-area bears, which consume plenty of meat. Sometime in the previous few weeks, she'd been eating meat, though not much of it.

None of the people attacked that night had any food or other attractants in their tents to tempt a bear's sensitive nose. Everybody had secured all food and utensils in their vehicles or the bearproof boxes at each campsite.

The bear had never been trapped or tranquilized, and she had no history of aggression toward people. The only known encounter had come a few days earlier when a woman, jogging on a highway near the park entrance, surprised the bear family along the road. The startled mother grizzly offered a bluff charge, then backed off when the jogger stopped running and started yelling at her. The bear's behavior was typical: She was being protective, not predatory.

And if anybody in the Cooke City area had problems with grizzly bears grabbing garbage or other food that summer, they did not report it.

Rumors circulated that a local photographer had been feeding the bears, which could have taught them to associate humans with food. Investigators chased leads but could find no evidence of such bear baiting. And the hair analysis ruled out any significant amount of human or livestock food.

Though it took a while to sort out these details, the evidence that Frey and FWP warden captain Sam Sheppard found on the ground made for a clear case, one as unusual as it was grim: This grizzly bear was treating people like food, like prey. And for that, she had to die. Anybody who pays any attention in grizzly country knows you should never, ever, give a bear a food reward. You don't do it on purpose, and you don't let it happen accidentally. It just teaches them to look for more of the same. And this bear and her cubs had found a food reward in a person they killed.

By 6 p.m. on July 28, about 16 hours after Kammer's death, the bear had returned to camp, where Frey had draped the rain fly from Kammer's tent over a culvert trap just 6 feet from where the father of four had died. She climbed into the steel container, looking for more food, and the door slammed shut behind her. Within another 12 hours, Frey had captured all three cubs, too.

While Frey's team already knew this had been a predatory attack—an effort to make a meal of people—they waited for definitive proof that they had the right bear. The next day, some deft work by a crime lab in neighboring Wyoming made sure Frey and his crew had what they needed: DNA from hairs gathered at the attack site matched DNA from the bear in the trap. Plus, the snapped tooth in Freele's tent matched a broken canine on the mother bear. Frey and Sheppard had the right bear.

Less than two hours later, the plunger dropped on a big hypodermic and the mother bear nodded into death. Her cubs will spend their life in the Billings zoo.

Frey and Sheppard said they have no

regrets about the decision to put the mother bear down. Bears that learn to rely on things like garbage and pet food cause problems enough. A bear that has killed and eaten a person cannot be tolerated.

"What made her cross that line that night will haunt me forever."

BLAMING THE VICTIM

News of the attacks spread quickly around the world. Media in Europe, China, and Australia covered it. For some reason, many people felt more sympathy for the bear than for the man she killed. Some grew livid. Hundreds of e-mails poured into FWP offices, enough to clog servers. Some blamed Kammer for being there. Others put on a stupefying display of ignorance and fantasy.

"The bear had been to the area before the campers were there and when she noticed a strange presence she immediately went into survival mode, doing what was necessary to ensure the protection of her cubs," wrote a woman, who offered to lock herself in a room with the bear to prove "it won't purposely kill me."

"What a bunch of morons!!!!," wrote another. "The mother bear and cubs were simply looking for food in their natural habitat."

"I will always think of Montana as a backward, anti-animal state who will murder a mother bear, orphan her three cubs because stupid arrogant people have to holiday in the wilderness," wrote one poster.

"You will burn in hell for murdering God's beloved creations," wrote another.

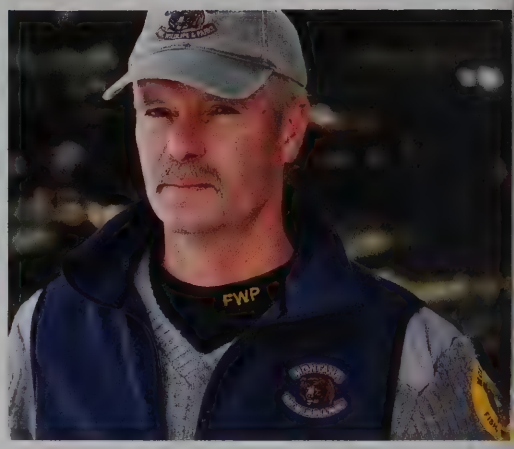
Off in the blogosphere, things got even worse. People even took shots at Kammer in the comments section of an on-line obituary.

Investigators saw it differently.

"That man deserves nothing but respect and sympathy," Sheppard said of Kammer.

I agree with him.

Kammer, 48, had taken a break from a career as a medical technologist to be a stay-at-home dad to his four kids, the youngest just 9 and the oldest 19. Two of them attended a Christian school. His family chose not to comment for this story, but news accounts and comments from friends provide at least a partial picture. Dedicated to his family, he was the kind of dad who showed up at school board meetings when a decision affected his kids. When coworkers had a bad day, they could count on the affable and



STILL PUZZLED Bozeman-based FWP bear specialist Kevin Frey says there's almost always a reasonable explanation for a grizzly attack. Someone gets too close to a mother bear and her cubs, or somebody surprises a bear on a trail. To this day, he and other bear experts cannot explain why the grizzly went on a rampage that night at Soda Butte Campground.

friendly Kammer to elicit a laugh. He liked fishing and camping and kayaking, fixing up the house, and relaxing in the hot tub.

His camp was clean. His food was properly stored. He wasn't in the wilderness; he was in a campground, a few feet from his car, a place with toilets and picnic tables and improved roads. Though surrounded by wild country, this place was built for people. He did nothing wrong. Yet doofuses on the Internet, cloaked in anonymity, felt free to criticize him.

Freele said she was in the ambulance on the way to a hospital in Cody, Wyoming, when she learned there had been more attacks, that a man had died. Until that point, she'd felt that she was the unlucky one. She knew she was in bear country and had done everything right. She never cooked on the fire pit, not wanting to leave any food residue in there. She kept her camp stove and food locked away. She didn't use any lotions, and she changed her clothes before going to bed. She always kept her bear spray handy, and if she found fresh bear sign on her daily fishing trips, she went elsewhere. She followed all the rules, yet for some reason the bear chose her tent that night. She has no doubt it was trying to make a meal of her.

Anonymous commenters on the Internet

PHOTOS BY THOMAS LEE

attacked her, too.

"That bothered me," she told me, but not as much as the knowledge that Kammer died nearby.

She wonders, now, if she couldn't have helped. She hopes he didn't suffer. She worries about his family. She wonders if she couldn't have tried harder to reach her pepper spray, if she couldn't have maybe chased the grizzly away, into the woods, away from people.

"Survivor's guilt, I guess," is the way she summed it up.

INCREDIBLE RARITY

Somebody gets nailed in grizzly country every year. Almost always, they survive these attacks by animals that can take down a bull elk or an Angus steer, though the injuries can be gruesome. This, more than anything, refutes the myth that grizzlies are manhunters that lust for human flesh. If they wanted to kill us, they could do it in short order.

Attacks like the ones at the Soda Butte Campground remain incredibly rare. The last time anything similar happened in the Greater Yellowstone Area was in 1984, when Bigitta Fredenhagen, of Basel, Switzerland, died in the park's remote Pelican Valley. Like Kammer, she had kept a clean camp and obeyed the rules, but a bear dragged her from her tent and ate much of her body anyway.

"Bears very rarely exhibit that kind of behavior," Sheppard said. "But every one of them is capable of it."

That's why the official response at Soda Butte was swift and immediate. Bear managers don't want to give bears a chance to repeat such intolerable behavior. Cynics respond that fear of lawsuits drives such decisions. I don't think it's that simple.

"There's a need to keep the community safe," Sheppard said. "We couldn't put a bear out there that we knew had cost somebody their life."

Not everybody buys that reasoning, as witnessed by the outpouring of invective over the death of the Soda Butte bear. Some people argue that killing an innocent man in a campground should not warrant a death sentence for a bear.

What these people fail to realize is that killing that bear might have saved other bears. Too often, hunters and hikers kill bears that seem threatening. In 2010, people killed at least 49 grizzlies in and near Yellowstone. That's nearly a record number (the record occurred in 2008), and at least 18 of those deaths remained "under investigation" by the end of the year. If the Soda Butte grizzly had been released, how many more bears would be killed by people convinced that every bear is that maneater?

Grizzly advocates—and I count myself among them—deserve to squirm over the events at Soda Butte Campground. Two people suffered serious injuries and a man died. None of them did anything wrong. These weren't garbage bears. It wasn't a surprise encounter. It was a deadly, predatory attack.

> **"Bears very rarely exhibit that kind of behavior, but every one of them is capable of it."**

As we move on with the seemingly interminable disputes over Endangered Species Act protections for grizzlies, as we argue over which places and under which conditions the growing population of grizzlies should roam, as we contemplate mathematical models and political theories and a raft of other abstractions, let's keep this in mind: Kevin Kammer was a real person with a real family. He's gone now. And we don't know why.

That's not an abstraction.

It's as real as it gets.

ZERO TOLERANCE Sam Sheppard, FWP warden captain in Bozeman, had no qualms about the department's decision to quickly dispatch the grizzly after it had been trapped. "We couldn't put a bear out there that we knew had cost somebody their life," he said.

GRANDPA'S GUN

Each time I took the old rifle into the mountains, I carried more than just a firearm.

BY BOB LOVE

Grandpa paid $18 for the Winchester Model 94 .30-.30 in 1926, and hunted whitetails with it in southwestern Pennsylvania until he died in 1954, before I was a year old. It hung on some barn nails in the rafters of Grandma's attic, along with his squirrel gun—a .22—and a double-barreled 12-gauge he used for rabbits and grouse. My brother Tom and I were fascinated with the guns, and spent a lot of time studying them, without touching. We weren't allowed to handle firearms unsupervised. The guns were a tangible connection to our grandpa, whom we knew only through stories and photographs. We noticed he had carved seven notches in the forearm of the Winchester. Neither Dad nor our uncles knew what the marks meant. Grandpa killed a deer nearly every year he hunted with that lever-action rifle, they told me, so maybe the notches signified bigger bucks.

Grandpa killed a buck with the rifle the first year he hunted with it, in 1926, and had the head mounted on a walnut board above an oval mirror. The buck's rack was oddly shaped: One antler was normal while the other was flat and slightly palmated, as though the deer had slept on it when the antler was soft and in velvet. My parents stored the mount in their basement when Grandma moved out of her house, and I brought it to Montana when I eventually settled down. It hangs on the wall of our front room next to two photographs of Grandpa with his rifle and the buck, one taken in the woods and the other in town with the buck draped over a car's front fender.

I brought the Model 94 west with me in 1971 when I finished high school, and shot a mule deer with it in some mountains near Bozeman. The following summer, my Uncle Frank gave me his Winchester Model 70 Featherweight .270, outfitted with an adjustable scope, that he'd bought in the mid-1950s. "This will work better than that .30-.30 in the country you're hunting now," he told me. When I took it to George Dieruf, a cranky old gunsmith in Bozeman, and asked him to help me develop some handloads for it, he grumbled, "That's an awful nice gun for a damn kid." George was right; it was an outrageous gift for a teenager, sort of a firearms version of pearls before swine. Uncle Frank was also right; it was the ideal rifle for western hunting, lightweight and flat-shooting, with a bolt action that allowed for a scope mount. I was too young to fully appreciate what a fine gun that Model 70 was, but I knew enough to take care of it. I've hunted with that rifle now for 40 years, and have killed more game with it than Frank could have imagined, in places he would have loved to hunt.

I didn't use Grandpa's gun much once I got the Model 70, especially when I started hunting mountain mule deer. Though muleys often hang out in the timber, they live in big country that can require longer shots. With the scoped .270 I could easily kill a deer at 200 yards and also thread a bullet through a doghair lodgepole thicket if necessary. In Montana, it is simply a more efficient tool than the .30-.30, which loses accuracy past about 150 yards and is really ideal for under 100 yards. This was an important consideration when I was raising a family and didn't have much time to hunt. Now that the kids are grown, filling the freezer isn't as critical as it once was, so I use the .30-.30 more often. With that shorter-shooting gun I have to stalk the deer, or rattle them in, preferably within 75 yards.

One Thanksgiving morning several years ago, I decided to take Grandpa's rifle for a walk in the mountains. The Thanksgiving hunt is a tradition I was raised with and maintain to this day. In western Montana this time of year, the bucks are in full rut; if we've had

PENNSYLVANIA WHITETAIL: The author's grandfather, in 1926, holds his new .30-.30 and a buck with a flattened and palmated right antler.

PHOTO PROVIDED BY AUT

heavy snows the muleys are bunched up on their winter ranges. Accompanying me was my son, Orion. He'd killed a buck earlier in the season, so he was acting as spotter, rattler, and, with luck, dragger. As we drove up the road toward our muley hunting territory, Orion said, "If you get one, I'll drag it out for you. I owe you for all those bucks you dragged out for me." I wasn't about to argue. I'd helped him haul several massive deer out of the backcountry when he was still too small to get them out on his own.

We parked the pickup and began hiking up the mountain, through the alder slides and into the timber. The faint routes we followed were only game trails, but they were familiar. I'd started hunting here 30 years ago, when Orion was a baby. Now he and his sister, Keeley, are grown, both healthy and strong, thanks in part to the meat this place has provided over the years.

As Orion and I climbed, we stopped frequently to catch our breath and cool down. He lightened my load by carrying the binoculars and the rattling horns, and glassed and rattled each time we stopped. The wind was in our favor, blowing mostly downslope, sometimes tinged with deer scent. Though a black cloud bank on the horizon signaled an approaching storm, the sky was clear for the time being. Deer would be up and feeding before they bedded down in sheltered thickets.

After a while, Orion's rattling finally brought in a buck, but it hung up too far for a shot with the .30-.30. An hour later we heard another buck snort and listened as it crashed through the lodgepole. We never saw the deer, but its tracks indicated it had approached to within 20 yards.

As we climbed, we approached a broad basin at the head of the draw. The country was more open, with bunchgrass parks and scattered Doug firs. It was the perfect place to find deer late in the morning, feeding before a storm. We stopped on a bench, shrugged out of our packs, and chewed on some jerky I'd made from a buck I'd shot there a year before.

The weather was raw, but we were comfortable, hunkered in the lee of some large firs. Orion rattled for about 20 minutes, but nothing appeared, so we decided to move on. Then, as I stepped out from the fir grove, I saw a buck coming up out of the draw toward us, not running, but moving fast, like he was looking for a fight. Apparently the rattling had worked. When I stepped behind a tree to get into shooting position, the buck spotted me and stopped, about 75 yards away. I leaned up against the fir and cocked the hammer on the .30-.30. The buck was facing me, brush obscuring his brisket with only his upper neck exposed. I hesitated, hoping for a closer, broadside shot. But the buck was suspicious and began weaving his head around, trying to catch our scent. I sensed he was going to bolt, so I fired. I was sure I hit him, but the buck didn't go down. He lurched down the hill into a fir thicket and staggered up out of the draw below us, about 40 yards away. Again, he only offered me a neck shot, but this time he was broadside. The crack of the .30-.30 was muted by the wind, but we could hear sticks cracking and scree clattering as the buck slid down the draw.

We followed the skid trail and found the buck piled up under a fir windfall. The first shot had been off by a few inches, just grazing his neck, but the second had been instantly fatal. The buck was fat, and I guessed he would dress out at about 230 pounds. The rack was dark and heavy—a standard four-point for this place, with about a 24-inch spread. Orion built a fire while I field-dressed the deer. By the time I finished, the fire was roaring. We sat by it, eating lunch. Gray jays flew in and started picking at fat scraps from the carcass.

The draw below us was laced with windfalls, which would make it tough to haul the deer out. I offered to at least carry the head, but Orion insisted on making good on his promise and lashed it to his day pack. I sauntered down the mountain with Grandpa's gun, enjoying the scenery, while Orion thrashed through the windfalls behind me, dragging the buck. I had convinced him to let me carry the deer heart, which rested in my pack, warm and heavy against my back. My own heart was light. The meat these mountains had provided would sustain us in the coming year, until next Thanksgiving, when I hoped to return.

The next day at home, while cleaning and oiling the .30-.30, I thought about how using his gun was like going hunting with Grandpa.

As I stepped out from the fir grove, I saw a buck coming up out of the draw toward us, not running, but moving fast.

Although he'd never hunted anywhere but the Appalachians, the gun was imbued with his spirit. In that sense, he had been with me all that time I'd been hunting muleys in the northern Rockies.

Orion stopped by just as I was slipping the .30-.30 into its case. He asked if he could take it on a late-season elk hunt near the Sun River. I gave it to him, along with 20 rounds of ammunition, and he went off to get his camp gear together. Orion told me later he saw some elk on that hunt, and though he couldn't get within range to use the .30-.30, he'd had fun trying. And I think his great-grandpa had fun helping him.

Bob Love lives and works in the woods north of Columbia Falls.

BACK-TO-SCHOOL SPECIAL

Expert tips for adult hunters rusty on the basics of hunting safety and survival.

BY ANDREA JONES

PHOTO ILLUSTRATION - KENTON ROWE AND LUKE DURAN

ach year more than 7,000 young, eager hunters-to-be pack into Montana Fish, Wildlife & Parks hunter education classrooms across Montana. The kids—mostly 11- and 12-year-olds—are taking part in a traditional Montana rite of passage in place since the late 1950s. The main goal of this education effort? Teach young hunters how to hunt safely.

But what about the tens of thousands of older hunters roaming Montana each fall? Most of them took a hunter education course sometime in their lives. But in many cases, that was three, four, or even five decades ago. Do they still remember what they learned?

In almost all cases, yes. Hunting-related deaths are rare in Montana, with fewer than two fatalities per year on average. (By comparison, more than 200 people die each year in vehicle accidents.)

Still, say Montana's hunter education instructors, it's always a good idea for everyone who hunts, no matter what their age, to review safety and survival basics. When it comes to firearms and outdoor adventures, even a small slip in awareness can lead to disaster.

What follows are reminders for all of us who hunt from instructors across Montana.

Firearms

When he starts teaching kids how to handle firearms, 20-year instructor Al Noack of Ennis asks his students if they're worried about the test at the end of the class. Most of them are. "Then I tell them, 'Even if you fail this class, you can always take another one until you pass. But every time you handle a firearm, you are taking a test. And if you fail that test, something bad could happen: You or someone else could be hurt or killed.'"

Because the stakes are so high, safety with the firearm itself is of chief importance for Noack and Montana's other roughly 1,500 hunter safety instructors. "In every single case in which someone was accidentally shot, at least one—if not two or more—of the four cardinal firearm safety rules was broken," says Wayde Cooperider, supervisor of FWP's Outdoors Skills and Safety Program. The four essential rules:

1. Always point the muzzle of your gun in a safe direction.

Instructors repeatedly tell their students that if a muzzle is never pointed at a person, it's almost impossible to shoot someone if the gun goes off accidentally. They also note that hunters are most prone to forget muzzle safety in some situations more than others. Instructor Irv Wilke of Laurel points out that "most accidents happen near a vehicle, so safe direction is critical there." Instructor Vince Salvia of Bozeman agrees. "In the morning when you're getting ready, you're excited, and when you're going home, you're dead tired," he says. "Those are times you forget about the muzzle. Or you might be around the truck getting ready to put your stuff away, and you cycle the action of your rifle while you're distracted. If it's pointed the wrong way, that's an accident waiting to happen."

Kelly Esquibel of Butte says muzzle safety is overlooked most often when hunters rush. "When you are out hunting, take your time," he advises. "Stop for a moment beforehand to think about how you are going to cross a creek, or a fence, or any obstacle so that you don't point the muzzle at yourself or another hunter." Don McKee of Helmville, who has been teaching "hunter ed" for 55 years, warns hunters never to look at anyone through a scope that's mounted on a rifle. "No matter how many safeties you have on, and even if you are positive the gun is unloaded, if it's pointed at someone and accidentally goes off, you could kill that person."

2. Always treat every gun as if it were loaded.

"When you read articles about hunting accidents, most people say they thought the firearm was unloaded," says Tim Muessig of Billings. "You can't just *think* that a firearm is unloaded. You have to *know*."

3. Always be sure of your target and beyond.

"And especially beyond," says McKee. He notes that a bullet that misses a target can continue on for hundreds of yards or farther.

SAFETY AND SURVIVAL CHECKLIST

Review and follow these top 10 guidelines before and during each hunt:

- Always point the muzzle of your gun in a safe direction.
- Always treat every gun as if it were loaded.
- Always be sure of your target and beyond.
- Always keep your finger off the trigger until ready to fire.
- Prepare for weather and accident emergencies.
- Create and carry a survival pack (fire-starting gear is essential).
- Make sure you know how to use all your hunting, safety, and survival equipment and that it's in good working order.
- Know your hunting partners' medical problems and physical limitations, and tell them yours.
- Make a hunting plan that identifies possible problems.
- Tell someone where you are going and when you'll return.

Andrea Jones manages FWP's regional Communication and Education Program in Bozeman.

"You can kill somebody that way, or damage livestock or buildings. You never know where that bullet is going if you're shooting over the horizon."

4. Always keep your finger off the trigger until ready to fire.

To drive this point home, Salvia tells his students, "Once you do pull the trigger, there's no power on earth that will allow you to take it back."

Survival

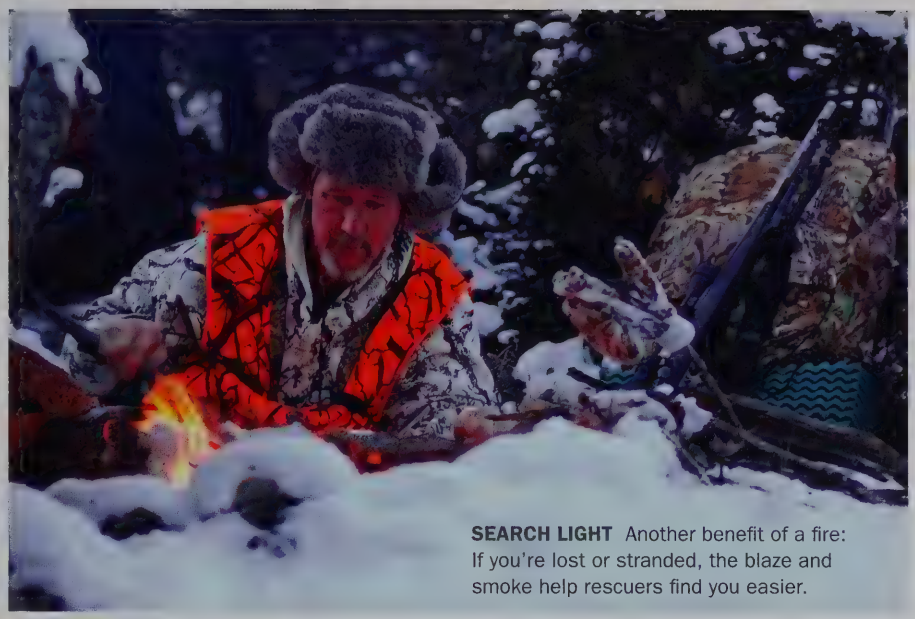
Though firearm safety should be foremost in any hunter's mind, there are plenty of other life-threatening scenarios to consider when heading afield. Montana's outdoors can be dangerous. Hunters can get lost, suffer frostbite, break a leg, or even die of dehydration or hypothermia. "You're in Montana, so be ready for anything," says McKee. "Prepare to get lost, to get in a snowstorm, and to stay overnight—that is unless the only hunting you're doing is for gophers in your backyard."

Wilke recommends that every hunter create and carry a well-supplied survival pack. "Whether you're going out for a short hunt or a long one, always have it with you at all times," he says. "And it's essential that you know what's inside the pack and how to use it. You can have it with you all day long, but if you don't know how to use the survival gear inside, it's not going to help you."

Billings instructor J.D. Shanahan says knowing how to build a fire and carrying gear to get a blaze going are essential. "If you have at least three ways to start a fire in your survival pack, you will get a fire started," he says. "And if you can build a fire and stay warm, you will stay alive. A fire also helps emergency response teams find you."

In addition to carrying a field survival pack, instructor Kathy Irwin of Lewistown keeps survival gear in her vehicle year-round. She also has learned how to change a tire, check the radiator, and take care of other vehicle basics, which she stresses when teaching women about hunting. A disabled vehicle high in the mountains or deep in the prairie can put any hunter in a miserable or even life-threatening position.

Wilke suggests that every hunter take a first-aid class. "You also should know your hunting partners' physical limitations and medical conditions, like if they have diabetes or a heart condition, and what to do if something happens," he says. "The same is true if you have a medical condition. These are things you need to discuss with each other before heading out on the hunt."



SEARCH LIGHT Another benefit of a fire: If you're lost or stranded, the blaze and smoke help rescuers find you easier.

"If you have at least three ways to start a fire in your survival pack, you will get a fire started. And if you can build a fire and stay warm, you will stay alive."

Equipment

"Anything that's manmade can and will fail," says Muessig, who recommends checking all your equipment before leaving on a hunting trip. "That includes firearms and hunting gear and also your vehicle, four-wheeler, camper, and everything else. Many hunters might check their hunting gear but then not look to see if their rigs are in working order."

"Break in those new boots beforehand," adds McKee. "And keep in mind that a compass or GPS doesn't do any good if you don't know how to use it."

Montana is notorious for its fast-changing weather, especially during fall and winter. That's why Shanahan stresses the importance of bringing a wide range of clothing. "You don't want to be stuck in a blizzard or freezing rain and not have the right gear," he says.

Hunt plan

And finally, say all instructors, plan ahead. Take time to anticipate problems you might encounter and the gear or knowledge you'll need in case something bad happens. McKee recommends hunters scout out unfamiliar terrain during summer, when conditions are safer. "And always make sure you have maps," he adds. As part of any hunting plan, says Irwin, hunters should make sure someone knows where they're going and when they plan to return.

Is this everything a hunter needs to know to stay safe and prevent accidents when afield? Not by a long shot. But these are the basics, things all hunters—young and old—should review as the season approaches. No plan is foolproof, and every trip into Montana's outdoors comes with some risk. But by following the suggestions offered here, you'll greatly decrease the odds of something going wrong.

Adult hunters interested in taking a hunter ed refresher course on-line (or in becoming certified in hunter ed), can visit fwp.mt.gov and follow the links to Hunter Education.

PHOTO: TRE TAYLOR/IMAGES ON THE WILDSIDE

Silver Bow begins bouncing back

Thanks to state and federal remediation, this Butte-area stream is showing hints of its cutthroat trout fishing potential. BY TOM DICKSON

For decades, no fish could survive in Silver Bow Creek, one of Montana's most toxic streams. Today westslope cutthroat trout numbers in this tributary of the upper Clark Fork River near Butte have grown to where Montana Fish, Wildlife & Parks recently imposed a catch-and-release regulation with the goal of restoring a healthy cutthroat fishery.

It is the first time FWP has assigned special fishing regulations to the creek and its tributaries, part of a major Superfund cleanup ongoing since 1999. Previously, Silver Bow was so polluted with heavy metals in century-old tailings from early silver and copper mines that fish entering the creek from tributary streams quickly died.

"There's no better barometer of the health of Silver Bow Creek than trout returning to their natural habitat," says Governor Brian Schweitzer, who celebrated the milestone earlier this year by casting flies into the stream with legendary trout angler Bud Lilly. "Fishing this creek is something no one has done since our great-great-grandparents."

Jason Lindstrom, FWP fisheries biologist for the upper Clark Fork drainage, says the trout are responding to 23 years of remediation by the Montana Department of Environmental Quality (DEQ) and the federal Environmental Protection Agency (EPA), along with restoration work by the Montana Department of Justice's Natural Resource Damage (NRD) Program. "They've gone in and removed pretty much all of the floodplain, which was contaminated by mine tailings, and rebuilt the entire creek channel," he says. "The heavy metals pollution has declined significantly, allowing the cutthroats to use the new habitat."

Lindstrom notes that the Silver Bow cutthroat population is by no means recovered. "Densities are still extremely low, probably less than 100 trout per mile," he says. "On other trout streams this size, we usually see more than 1,000 fish per mile." He explains that ammonia and excess nutrients discharged into Silver Bow from the Butte wastewater treatment plant are limiting further recovery. Plans are under way to limit effluent flows into the stream.

FWP's new special regulations require anglers to release all cutthroat trout they catch. "Because trout densities in Silver Bow are still so low, it is growing some very big trout right now," says Lindstrom. "And because cutthroat are fairly easy to catch, we figured we should get in there now with regulations to protect those large fish." Anglers can keep brook and rainbow trout under regional FWP regulations and are encouraged to do so, to reduce competition with the native cutthroat.

Decades of mining in the late 1800s near Butte and Anaconda, and subsequent floods that washed toxic mine tailings downstream, resulted in such extensive environmental degradation that in 1983 the EPA designated the area as a Superfund site. That same year Montana filed a lawsuit against the existing owner of the properties, Atlantic Richfield Company (ARCO), to recover damages for harming water, soil, veg-

GRIM TIMES FOR TROUT By the early 1900s a dozen concentrators, smelters, and precipitation plants operated along Silver Bow Creek. William Clark's Butte Reduction Works (above, along a settling pond) was one of the largest facilities. High volumes of mine tailings, factory effluent, and city sewage led to extensive acid rock drainage and water pollution in the once-pristine stream.

Tom Dickson is editor of Montana Outdoors.

"Fishing this creek is something no one has done since our great-great-grandparents."

SILVER LINING Silver Bow Creek contains deep pools, like in the Durant Canyon reach (top). Governor Schweitzer celebrates the return of trout to the creek with trout angling legend Bud Lilly (above). New regulations will protect the stream's big cutthroats, like this 18-incher (right).

etation, fish, and wildlife in the Upper Clark Fork River Basin. As part of a 1999 settlement, the state received roughly $130 million in damages to restore or replace the degraded natural resources.

Since 1999, a $120 million project has been under way to clean up 22 miles of Silver Bow Creek from Butte to the Warm Springs Ponds. The DEQ, with oversight from the EPA, is coordinating cleanup of the creek with the NRD Program. The heavy metal removal is scheduled to be done by 2014.

The remediation and restoration of Silver Bow Creek is the largest project of its type in the United States and has won local, national, and international awards for environmental excellence, say state officials.

Schweitzer notes that federal Superfund activities at Silver Bow Creek and other sites have brought hundreds of millions of remedial construction dollars and thousands of jobs to Montana's economy.

"In a few years, the project should be complete, under budget, and in the hands of the people of Montana," Schweitzer says. "Silver Bow Creek could become a blue ribbon trout stream for our children and our children's children to enjoy."

CLOCKWISE FROM LEFT: BUTTE-SILVER BOW PUBLIC LIBRARY; PAT MUNDAY; MT DEQ; MT DEQ

There They Go Again

By Bruce Auchly

Those little tufts of bright feathers that sang beautiful songs and entertained us in spring and early summer are headed south. Fast.

It's songbird migration time. In fact, some, like the western kingbird and northern oriole, will leave north-central Montana while it's technically still summer, in late August and early September.

Other birds won't abandon their northern homes until severe weather pushes them south, though "south" may be just from Canada to Montana. To this group add the common redpoll and Bohemian waxwing.

Most migrants, like the American goldfinch and common yellowthroat, head south from mid-September though October.

The migration puzzle has fascinated humans forever.

In the Middle Ages, a belief took hold that birds flew to the moon for the winter. (They don't, in case you wondered.)

Others thought that birds such as swallows and swifts hibernated in caves. Not a crazy notion, really. Bats do it, why not birds? But also not true.

Some folks believed hummingbirds rode on the backs of geese. Hummers are so small, the argument went, there's no way they could fly very far on their own. They must hitch a ride on the backs of geese. Though the myth is not true, apparently some folks still believe it.

Birds evolved to migrate because it works. Species traveling from northern latitudes to warmer winter climates are able to live in two different regions when each provides favorable conditions.

Migration is tough. According to one estimate, more than half the small land birds of the Northern Hemisphere never return from their southbound migration. Among the risks: exposure, exhaustion, and physical dangers both natural, like hurricanes, and manmade, such as skyscrapers.

Many of us have heard the sickening thud of a bird flying into a window at home. Now think bigger, say, New York City bigger.

New York or almost any metropolis on the Eastern Seaboard lies along a major songbird migration route. All of those big cities have big buildings with lots and lots of glass, which can be a perfect mirror in certain lighting. To migrating birds, the buildings sometimes look exactly like the sky.

The National Audubon Society calculates that 90,000 birds are killed each year in New York City by flying into buildings. That estimate, by the way, comes from volunteers picking up dead birds each morning during the fall migration at the base of the city's glass towers.

Not all birds migrate. Magpies and house sparrows spend their summers and winters in the same spot. And all of our upland game birds, such as pheasants and mountain grouse, stay put, mostly just moving about within their habitat.

Birds that do migrate, especially those flying thousands of miles, accomplish feats that boggle the mind. Think of it: A human who wants to complete a 26-mile marathon typically trains for months or longer and usually goes over the course before the race.

Meanwhile, a western tanager that hatches and learns to fly in the Gallatin Valley south of Bozeman will, just a month or so later, journey 2,400 miles south to Guatemala, navigating by landmarks it has never before seen.

Once again, which is the superior species?

Bruce Auchly manages the regional Communication and Education Program in Great Falls.

Milksnake

Lampropeltis triangulum

By Lee Lamb

The milksnake got its name because people once believed the reptiles sucked milk from cow udders. Of course, such behavior is anatomically impossible for the snakes, which lack lips, and certainly would not be tolerated by cows. The likely source of the myth is the fact that milksnakes do frequent barns, though in search of mice and rats.

Milksnakes—like all Montana snake species except the prairie rattlesnake—are nonpoisonous and relatively passive. They act aggressively only if they feel threatened. Like so many snake species, the milksnake is an efficient rodent and insect hunter that helps keep the pests in check.

Identification

Milksnakes are slender, medium-sized snakes 16 to 28 inches long, with males slightly longer than females. Straddling the pale body are 22 to 32 red-to-orange markings bordered by black and separated by whitish or yellowish bands that run the length of the body. The head is black with a white or yellow underside. The rounded snout is often dappled with black. Juvenile milksnakes are miniature versions of adults, but with subdued coloring.

The milksnake's bright colors make it easily distinguishable from other Montana snakes. However, it closely resembles the poisonous coral snake found in southern Arizona, Texas, and southeastern states.

Range and habitat

Milksnakes are the most widespread snake in North America. Twenty-five subspecies roam across the eastern and central United States to the Rocky Mountains, with Montana marking the northwestern limit of the snakes' range. The pale milksnake is the subspecies found in Montana. It inhabits sagebrush-grassland habitat and ponderosa pine savannah with sandy soils, mostly in or near rocky outcrops and hillsides in the state's eastern and central regions.

Montana native Lee Lamb writes from Coeur d' Alene, Idaho.

RONAN DONOVAN

Life cycle

Milksnakes typically reach sexual maturity at age three or four. They mate after emerging from overwintering dens in April and May. Courtship and copulation often include chasing, touching, and side-by-side alignment, as well as biting by aggressive males. Females lay a clutch of 4 to 13 oval white eggs in burrows or under cover in late June and early July. Sometimes several females lay eggs in the same location. The hatchlings emerge six to nine weeks later, fully capable of taking care of themselves.

Milksnakes typically live six to ten years in the wild. Their few natural predators include coyotes, badgers, and raptors.

Scientific name

Lampropeltis is Greek for "bright shield," referring to the shiny dorsal scales. ***Triangulum***, Latin for "triangle," may refer to the snake's three colors.

Food

Like all snakes, the milksnake persistently flicks its forked tongue to "taste" or "smell" food by picking up odors and particles in the air. When an odor is detected, the snake sticks its tongue into two holes in the top of its mouth, called the Jacobson's organ, to allow its brain to determine if the scent belongs to a potential meal. Milksnakes are opportunistic hunters—preying on small mammals (including young in a burrow nest), other snakes, lizards, birds, reptile and bird eggs, worms, and insects. They gobble small prey whole and, like boas and pythons, constrict larger prey until it suffocates.

Habits and behavior

Milksnakes don't actually hibernate, but they do overwinter in dens starting in October or November, emerging in April or May. The den can be an embankment, rock crevice, or abandoned rodent burrow and may contain other snake species, including rattlers.

Milksnakes are most active at dusk and night. During the heat of a summer day, they seek shade in burrows or under rocks and logs. People will occasionally spot milksnakes during daytime when the ground is wet and cool.

Status and management

In Montana, the milksnake is considered a state "species of concern," primarily because biologists lack information about its abundance, range, habitat requirements, and foraging behavior.

Among proposals for managing milksnakes: Protect known overwintering dens, educate Montanans about the value of milksnakes as pest controllers (to prevent unnecessary slaying), and restrict or regulate commercial harvest for the pet trade.

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PARTING SHOT

TROUBLE IN PARADISE Its ponderosa pine forests, abundant grasslands, and lack of predators make the Missouri Breaks ideal elk habitat. See page 20 to learn why hunters fought over opportunities to pursue trophy bulls in the vast, scenic region. Photo by John Lambing.

Montana Fish, Wildlife & Parks

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